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Consumption of

Commercial Fertilizers and Primary Plant Nutrients

in the United States

year ended June 30, 1963

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Consumption of Commercial Fertilizers and Primary Plant Nutrients in the United States, Year Ended June 30, 1963

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Fertilizer products marketed for farm and nonfarm consumption and their primary plant-nutrient (N, P_2O_5, K_2O) contents are reported for individual States, the District of Columbia, and Puerto Rico, for the year ended June 30, 1963.

The data presented in tables 1 through 15 are based on information obtained from (1) fertilizer manufacturers on the tonnage of each kind and grade of product supplied to agents, dealers, and consumers; (2) distributors and custom applicators on shipments of anhydrous ammonia and nitrogen solutions; (3) manufacturers of base materials and brokers of products marketed direct to consumers; and (4) tonnage reports issued by States. Data for California, Florida, Massachusetts, Missouri, North Carolina, South Carolina, Texas, and Virginia were obtained chiefly from the State tonnage reports.

The tonnages of fertilizer reported as mixtures and as materials include all forms (bagged, bulk, granular, liquid, pulverized) marketed by the respondents indicated above. Mixtures prepared by dealers and applicators are not included in this report but the quantities of products (mixtures and materials) that were used in mixing by dealers and applicators are included as such. Products prepared to contain pesticides or one or more of the secondary and trace nutrients are not reported separately. Their quantities are included in the totals of the grades or kinds of products listed in the tables.

The quantities of N, P_2O_5, and K_2O are based on the average analyses of samples of the products as reported by fertilizer-control officials of the respective State in which they were marketed, rather than on the manufacturers' guarantees. Thus, the overruns or underruns of nutrients are taken into account.

Quantities are reported as 2,000-pound tons. Although the data refer specifically to shipments, the terms "consumption," "sales," and "shipments" are used synonymously. Actual consumption undoubtedly differs slightly from either shipments or sales.

FERTILIZER

The kinds of fertilizer marketed for retail consumption are listed in table 1 with the amounts consumed in each region during the year ended June 30, 1963. The quantities do not include the amounts of these materials that were used in the manufacture of products listed in the tables as "mixtures." The States constituting these regions are shown in table 2, together with the separate totals of commercial mixtures and of direct-application materials consumed in each.

Consumption of fertilizers in the United States has continued to increase, totaling 28,844,480 tons in the year ended June 30, 1963. This total consisted of 27,385,887 tons of products containing one or more of the primary nutrients and 1,458,593 tons of secondary- and trace-nutrient materials marketed for retail consumption as such. In comparison with consumption in year ended June 30, 1962, most areas showed greater use of fertilizer (column 9, table 2). More than 50 percent of the increase in consumption of fertilizers containing primary nutrients was reflected in the combined totals of the States comprising the East and West North Central regions (table 3).

MIXTURES

In 1962-63, mixtures comprised 59.5 percent of the tonnage of all fertilizers consumed and amounted to 17,156,913 tons. Included in this total are all mixtures marketed by manufacturers as specialty products. In this publication, all quantities of the grades 11-48-0, 13-39-0, 16-20-0, 21-53-0, and 27-14-0 are classed as materials. All other N-P grades, including 16-48-0 and 18-46-0, are classed as mixtures. The individual tonnages of the above-mentioned grades are recorded, by States, in a separate table (table 10).

In the contiguous United States, many thousands of combinations of primary nutrients are prepared for the retail market as mixtures. Of this uncounted number 2,639 were recorded, but 280 of these accounted for nearly 94 percent of the total tonnage of all mixtures. The mixtures representing the principal tonnage consumed are listed by grades in tables 4 and 5 and by ratios in table 6. The listed grades are those that are marketed as registered grades.

The average primary-nutrient content of all mixtures consumed in each State is recorded in table 7. These averages are necessarily based principally on the quantities of mixtures reported by grade. Estimates of the nutrient contents of the much smaller quantities of unspecified grades, are included in the averages.

PRIMARY-NUTRIENT MATERIALS

The national total of primary-nutrient materials consumed for direct application amounted to 10,228,974 tons and accounted for 35.5 percent of all fertilizers used. The tonnages of the principal products applied in each State are shown in table 8.

Consumption of primary-nutrient materials was 1,129,028 tons, or 12.4 percent more than in 1961-62. Most of the increase was reflected in the chemical nitrogen materials. A significant increase in tonnage of potash materials was also recorded in the East and West North Central regions (table 9).

The average primary-nutrient contents of the direct-application materials used in each of the areas are shown in table 7. These averages were computed from the actual analysis and reported tonnages of the individual materials comprising the respective classes. These averages are indicative of the relative grades of products consumed in principal quantities in each designated area.

SECONDARY- AND TRACE-NUTRIENT MATERIALS

The separate quantities of the secondary- and trace-nutrient materials marketed to consumers for use as such are shown for each region in table 1 and their total for each State in table 8. There are undoubtedly retail sales of products supplied through chemical manufacturers and amounts blended into fertilizers for which there are no records.

The principal sources of the secondary-nutrient elements—calcium, magnesium, and sulfur—are limestone, dolomite, and gypsum, respectively. Other products, such as ammonium nitrate-limestone mixtures, potassium-magnesium sulfate, and ammonium sulfate, are sometimes used for these nutrients, as they offer the advantage of also applying the primary nutrients.

The trace-nutrient elements—boron, copper, iron, manganese, zinc—and others, though most important to plant growth are required in only small amounts. These are usually available in adequate quantities in most soils. Under intensive culture the crops may, however, remove greater quantities of these elements than the soil would normally

be called upon to supply. Deficiencies may occur in such cases. The use of trace elements, therefore, is simply a matter of fitting a remedy to a specific need. Application of these to correct deficiencies, except boron, is commonly in the form of the sulfate salt at rates of 10 to 50 pounds or more per acre, depending on the crop and potential toxicity. Application as chelates, oxides, and other forms are used also. It is also general practice to add these trace elements to fertilizers for application on land where such need is justified. Fertilizers enriched with boron, copper, iron, manganese, and zinc have contained, on the average, 0.09 percent boron (B), 0.36 percent copper (Cu), 0.46 percent iron (Fe), 0.63 percent manganese (Mn), and 0.39 percent zinc (Zn).

PRIMARY PLANT NUTRIENTS

Fertilizer products marketed for farm and nonfarm consumption during the year ended June 30, 1963, in the 50 States, District of Columbia, and Puerto Rico contained 9,505,424 tons of primary plant nutrients (N, available P_2O_5, K_2O), as shown in table 11. Nitrogen consumption was 3,929,089 tons, an increase of 559,109 tons (16.6 percent); that of available P_2O_5, 3,072,873 tons, an increase of 265,834 tons (9.5 percent); and that of K_2O, 2,503,462 tons, an increase of 232,925 tons (10.2 percent).

Mixtures supplied 1,263,641 tons (32.2 percent) of the N, 2,473,599 tons (80.5 percent) of the available P_2O_5, and 2,148,434 tons (85.8 percent) of the K_2O. These quantities represented increases of 10.1, 11.4, and 8.9 percent for N, available P_2O_5, and K_2O, respectively, compared with consumption in 1961-62.

Materials used for direct application supplied 2,665,448 tons (67.8 percent) of the N, 599,274 tons (19.5 percent) of the available P_2O_5, and 355,028 tons (14.2 percent) of the K_2O. These quantities represented increases of 19.9, 2.0, and 19.4 percent, respectively, over the previous year.

Consumption of primary nutrients supplied by mixtures and by direct-application materials in each area in 1962-63 is compared in table 12 with the consumption in 1961-62. Consumption of all primary nutrients was significantly higher in most of the States comprising the East and West North Central regions.

The quantities of primary nutrients supplied in each area according to the kinds of fertilizer products used are shown in tables 13, 14, and 15, respectively, for N, available P_2O_5, and K_2O. As mentioned before, the quantities are based on the average nutrient content found on samples of the products collected by the State in which the products were marketed. These tables are the first to be published by States and regions.

Table 1. - Kinds of fertilizer consumed, by region, year ended June 30, 1963[1/]

Kind	New England	Middle Atlantic	South Atlantic	East North Central	West North Central	East South Central	West South Central	Mountain	Pacific	Alaska, Hawaii, and Puerto Rico	United States
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
MIXTURES	353,694	1,800,923	5,185,249	3,699,333	1,972,067	2,147,084	1,053,697	139,327	489,355	316,184	17,156,913
N-P-K	333,648	1,677,418	4,675,293	3,363,927	1,448,236	1,903,857	829,247	45,354	300,636	247,466	14,825,082
N-P	115	3,121	5,375	90,083	433,418	11,947	133,695	93,605	184,249	5,851	961,459
N-K	4	252	250,615	13,134	608	5,903	3,945	110	2,076	60,455	337,102
P-K	19,927	120,132	253,966	232,189	89,805	225,377	86,810	258	2,394	2,412	1,033,270
CHEMICAL NITROGEN MATERIALS	10,493	118,497	963,924	961,832	1,405,634	666,637	846,829	334,465	1,153,236	75,207	6,536,754
Ammonia, anhydrous	0	7,708	33,237	227,544	360,300	87,938	279,975	66,498	163,066	0	1,226,266
Ammonia, aqua	0	35	23	51,907	93,770	576	30,962	27,476	344,838	29,578	579,165
Ammonium nitrate[2/]	4,098	31,877	167,136	180,352	420,649	308,076	194,633	88,517	81,984	2,864	1,480,186
Ammonium nitrate-Limestone	0	1,362	185,015	196	1	34,773	112	345	60	0	221,864
Ammonium sulfate	405	10,158	9,960	102,134	7,183	8,594	100,291	63,924	376,123	25,191	703,963
Calcium cyanamide	388	5,169	5,321	382	61	5,620	3,466	1,091	4,805	9	26,312
Calcium nitrate	0	0	9,060	0	0	0	1,360	9,965	18,726	138	39,249
Nitrogen solution	1,976	34,072	351,136	322,171	476,902	78,086	96,370	33,702	98,958	134	1,493,507
Sodium nitrate	968	9,427	191,102	2,172	463	131,686	44,912	117	437	59	381,343
Urea	2,315	17,138	7,399	72,885	42,088	10,685	92,076	39,756	62,863	17,234	364,439
Other	343	1,551	4,535	2,089	4,217	603	2,672	3,074	1,376	0	20,460
NATURAL ORGANIC MATERIALS	20,632	38,417	33,341	43,541	11,836	4,021	6,950	30,866	354,794	26	544,424
Blood, dried[3/]	8	30	40	14	3	0	0	33	2,503	0	2,631
Castor pomace	1,234	123	2,780	0	0	0	162	0	1,496	0	5,795
Compost	239	2,294	350	8,710	731	274	369	16,235	2,651	0	31,853
Cottonseed meal[3/]	4,147	79	1,873	0	91	10	0	0	316	0	6,516
Fish scrap, meal, and emulsion	261	16	0	0	127	0	0	1	1,156	0	1,561
Manure, dried	5,311	15,226	9,666	9,558	3,507	837	1,329	11,730	4/303,853	0	361,017
Sewage sludge, activated	6,302	13,872	13,314	23,861	7,313	1,470	2,247	2,267	10,684	25	81,355
Sewage sludge, other	0	0	41	669	0	42	0	550	31,113	0	32,415
Tankage	1,832	6,310	3,444	695	61	1,388	0	0	301	1	14,032
Other	1,298	467	1,833	34	3	0	2,843	50	721	0	7,249
PHOSPHATE MATERIALS	25,114	74,209	97,294	609,910	629,159	172,203	372,510	203,829	323,015	15,075	2,522,318
Ammonium phosphate: 11-48[5/]	29	890	33	19,607	63,843	239	9,778	15,992	34,172	2,704	147,287
Ammonium phosphate: 13-39[5/]	0	22	0	47	5,543	23	16,891	1,663	5,513	160	29,862
Ammonium phosphate sulfate: 16-20[5/]	0	0	0	87	103,509	99	193,525	55,933	131,967	162	485,282
Ammonium phosphate nitrate: 27-14[5/]	0	200	378	265	17,862	4,911	216	5,400	12,036	0	41,268
Basic slag	0	0	17,003	0	0	42,602	1,095	0	0	0	60,700
Bonemeal: raw and steamed	1,100	2,683	965	1,722	418	217	132	111	1,864	4	9,216
Calcium metaphosphate	0	46	777	2,111	2,524	1,973	184	165	74	0	7,854
Diammonium phosphate: 21-53[5/]	58	503	1,857	5,031	2,527	3,004	1,955	10,986	3,570	252	29,743
Phosphoric acid	0	0	0	105	1,586	0	4,511	17,990	11,890	2	36,084
Phosphate rock	290	2,896	14,362	424,939	204,673	6,558	21,255	2,368	260	6,647	684,248
Colloidal phosphate	0	190	2,036	20	2,727	5,420	3,048	403	190	0	14,034
Superphosphate: 18 percent	769	3,563	7,937	898	5,841	18,296	150	33	667	0	38,154
Superphosphate: 19 percent	2	0	1,982	0	0	11	0	3,105	1,081	176	6,357
Superphosphate: 20-22 percent	21,840	53,268	43,273	47,260	33,036	71,071	58,371	9,613	98,697	2,656	439,085
Superphosphate: 23-44 percent	0	0	0	2,593	129	0	3,972	274	0	777	7,745
Superphosphate: 45 percent	3	1,062	373	8,394	35,031	2,367	12,153	45,118	16,592	113	121,206
Superphosphate: 46 percent	344	3,932	1,304	94,267	146,224	6,080	40,287	32,757	3,813	739	329,747
Superphosphate: 47-54 percent	1	0	103	1,971	3,305	3,022	4,784	1,607	24	683	15,500
Other	678	4,954	4,911	593	381	6,310	203	311	605	0	18,946
POTASH MATERIALS	2,140	17,500	101,948	279,745	90,033	54,901	45,211	4,246	24,506	5,248	625,478
Lime-Potash[6/]	0	2,373	20,921	0	0	100	0	66	0	0	23,460
Manure salts	0	0	5,078	0	16	0	3	0	0	0	5,097
Potassium chloride: 50-62 percent	1,012	11,150	37,986	274,041	88,733	43,189	42,600	2,538	11,290	3,943	516,482
Potassium magnesium sulfate	65	943	7,945	3,124	732	2,041	765	868	1,676	467	18,626
Potassium nitrate	142	16	424	1	25	323	51	0	3	30	1,015
Potassium sodium nitrate[7/]	157	1,350	16,349	573	0	1,062	347	0	0	0	19,838
Potassium sulfate	497	1,633	9,132	1,969	380	8,185	80	774	10,971	808	34,429
Other	267	35	4,113	37	147	1	1,365	0	566	0	6,531
SECONDARY AND TRACE NUTRIENT MATERIALS	156	7,493	120,492	8,977	4,475	5,795	4,579	40,965	1,263,392	2,269	1,458,593
Aluminum sulfate[8/]	11	39	14	38	0	2	0	0	76	0	180
Borax[8/]	44	190	233	667	70	377	2	117	616	2	2,318
Calcium sulfate (gypsum)	40	6,402	117,225	878	1,074	5,281	2,310	26,793	1,201,200	11	1,361,214
Copper sulfate[8/]	0	32	316	44	8	3	0	1	117	1	522
Iron sulfate[8/]	0	1	272	0	46	3	80	595	5,898	2,073	8,968
Magnesium sulfate[8/]	56	233	428	561	10	3	0	6	335	93	1,725
Manganese sulfate[8/]	5	98	314	2,081	19	2	0	21	90	0	2,630
Mixed minerals[8/]	0	0	0	0	747	0	0	316	5,630	1	6,694
Sulfur	0	30	781	34	168	2	1,256	2,363	19,169	34	23,837
Sulfuric acid	0	0	0	0	0	0	800	1,819	4,734	0	7,353
Zinc sulfate[8/]	0	7	307	345	493	99	0	301	2,831	54	4,437
Other	0	461	602	4,329	1,840	23	131	8,633	22,696	0	38,715
GRAND TOTAL	412,229	2,057,039	6,502,248	5,603,338	4,113,204	3,050,641	2,329,776	753,698	3,608,298	414,009	28,844,480

1/ Includes the following fertilizer distributed by Government agencies for test demonstrations: - as mixtures, 8,023 tons; as materials, 12,317 tons. Excludes liming materials and the quantities of materials used in the manufacture of commercial mixtures. Primary-nutrient contents are shown in tables 13-15. 2/ Undetermined quantities may have been used for nonagricultural purposes. 3/ Excludes distribution for feed. 4/ Includes an estimate of 301,000 tons consumed in California. 5/ Includes all reported quantities of the grade. 6/ Additional quantities may have been given to farmers for which no records are kept. 7/ Additional quantities may have been reported by grade under mixtures (see table 4). 8/ Additional quantities may have been mixed in fertilizers.

Table 2. - Fertilizer consumed as mixtures and as direct-application materials, by State and region, year ended June 30, 1963, and comparison with preceding year

State and region	Mixtures			Materials[1]			Grand total	Comparison with total consumption in year ended June 30, 1962	
	July 1 - Dec. 31, 1962	Jan. 1 - June 30, 1963	Total	July 1 - Dec. 31, 1962	Jan. 1 - June 30, 1963	Total		Fertilizer[2]	N, avail. P_2O_5, and K_2O
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Percent	Percent
Maine	29,644	122,506	152,150	2,294	5,723	8,017	160,167	96	97
New Hampshire	2,808	12,512	15,320	936	2,366	3,302	18,622	106	105
Vermont	7,731	32,907	40,638	1,461	13,238	14,699	55,337	99	101
Massachusetts	12,846	58,286	71,132	3,885	11,236	15,121	86,253	109	112
Rhode Island	5,455	11,569	17,024	375	1,636	2,011	19,035	116	122
Connecticut	13,405	44,025	57,430	3,892	11,493	15,385	72,815	97	108
New England	71,889	281,805	353,694	12,843	45,692	58,535	412,229	100	103
New York	117,401	415,347	532,748	20,780	52,035	72,815	605,563	103	107
New Jersey	44,978	173,840	218,818	6,515	19,578	26,093	244,911	102	102
Pennsylvania	175,223	397,818	573,041	26,622	67,760	94,382	667,423	100	107
Delaware	14,762	80,991	95,753	1,916	6,793	8,709	104,462	113	118
District of Columbia	1,208	2,736	3,944	555	665	1,220	5,164	118	124
Maryland	72,807	243,604	316,411	10,271	29,007	39,278	355,689	111	114
West Virginia	12,022	48,186	60,208	2,865	10,754	13,619	73,827	101	104
Middle Atlantic	438,401	1,362,522	1,800,923	69,524	186,592	256,116	2,057,039	104	108
Virginia	146,721	526,892	673,613	23,843	97,979	121,822	795,435	104	104
North Carolina	159,473	1,228,010	1,387,483	48,177	296,855	345,032	1,732,515	105	106
South Carolina	79,476	560,838	640,314	33,023	185,989	219,012	859,326	106	108
Georgia	219,389	950,061	1,169,450	65,978	339,467	405,445	1,574,895	104	107
Florida	512,612	801,777	1,314,389	81,248	144,440	225,688	1,540,077	96	99
South Atlantic	1,117,671	4,067,578	5,185,249	252,269	1,064,730	1,316,999	6,502,248	102	105
Ohio	286,310	673,097	959,407	40,890	167,982	208,872	1,168,279	112	116
Indiana	253,095	694,593	947,688	83,805	333,854	417,659	1,365,347	114	117
Illinois	223,347	562,552	785,899	339,482	723,498	1,062,980	1,848,879	113	123
Michigan	215,623	423,824	639,447	33,038	90,772	123,810	763,257	113	118
Wisconsin	83,527	283,365	366,892	32,755	57,929	90,684	457,576	107	108
East North Central	1,061,902	2,637,431	3,699,333	529,970	1,374,035	1,904,005	5,603,338	113	118
Minnesota	107,762	320,052	427,814	51,112	139,029	190,141	617,955	110	114
Iowa	126,849	436,660	563,509	124,668	415,119	539,787	1,103,296	126	132
Missouri	178,437	403,402	581,839	174,305	279,596	453,901	1,035,740	121	125
North Dakota	9,953	47,378	57,331	15,868	85,652	101,520	158,851	94	99
South Dakota	3,472	23,376	26,848	13,653	39,439	53,092	79,940	121	119
Nebraska	16,100	95,609	111,709	94,851	322,492	417,343	529,052	113	116
Kansas	116,732	86,285	203,017	144,830	240,523	385,353	588,370	123	125
West North Central	559,305	1,412,762	1,972,067	619,287	1,521,850	2,141,137	4,113,204	119	122
Kentucky	77,355	437,658	515,013	37,172	103,689	140,861	655,874	104	106
Tennessee	103,850	392,767	496,617	30,857	132,100	162,957	659,574	103	109
Alabama	150,063	626,096	776,159	58,393	206,354	264,747	1,040,906	103	104
Mississippi	45,817	313,478	359,295	110,034	224,958	334,992	694,287	103	107
East South Central	377,085	1,769,999	2,147,084	236,456	667,101	903,557	3,050,641	103	106
Arkansas	25,549	191,361	216,910	59,901	144,760	204,661	421,571	104	107
Louisiana	41,729	150,484	192,213	41,685	118,640	160,325	352,538	107	110
Oklahoma	77,231	80,834	158,065	76,588	82,554	159,142	317,207	120	126
Texas	140,899	345,610	486,509	255,533	496,418	751,951	1,238,460	120	124
West South Central	285,408	768,289	1,053,697	433,707	842,372	1,276,079	2,329,776	114	118
Montana	3,551	8,861	12,412	23,343	29,383	52,726	65,138	129	134
Idaho	8,237	21,195	29,432	45,034	105,612	150,646	180,078	106	106
Wyoming	303	3,231	3,534	2,159	16,231	18,390	21,924	141	143
Colorado	6,375	29,415	35,790	38,810	72,606	111,416	147,206	99	101
New Mexico	2,026	9,046	11,072	10,402	37,746	48,148	59,220	94	98
Arizona	11,437	24,677	36,114	78,157	119,084	197,241	233,355	107	110
Utah	2,377	7,062	9,439	7,025	21,200	28,225	37,664	89	95
Nevada	388	1,146	1,534	1,875	5,704	7,579	9,113	106	109
Mountain	34,694	104,633	139,327	206,805	407,566	614,371	753,698	105	108
Washington	17,135	48,438	65,573	116,227	205,193	321,420	386,993	105	109
Oregon	12,195	34,535	46,730	56,183	165,539	221,722	268,452	110	111
California	94,398	282,654	377,052	1,236,401	1,339,400	2,575,801	2,952,853	107	107
Pacific	123,728	365,627	489,355	1,408,811	1,710,132	3,118,943	3,608,298	107	108
48 States and D. C.	4,070,083	12,770,646	16,840,729	3,769,672	7,820,070	11,589,742	28,430,471	108	113
Alaska	1	2,719	2,720	0	3,553	3,553	6,273	126	128
Hawaii	43,957	39,817	83,774	29,218	32,431	61,649	145,423	91	81
Puerto Rico	101,209	128,481	229,690	14,468	18,155	32,623	262,313	102	107
United States:									
1962-1963	4,215,250	12,941,663	17,156,913	3,813,358	7,874,209	11,687,567	28,844,480	108	113
1961-1962	3,839,861	12,365,422	16,205,303	3,484,802	6,924,932	10,409,734	26,615,037	100	100
1960-1961	3,912,334	11,822,377	15,734,711	3,437,104	6,395,315	9,832,419	25,567,130	96	93

1/ Includes the primary-nutrient (N, P_2O_5, K_2O) and the secondary- and trace-nutrient materials for direct application.
2/ Excludes the secondary- and trace-nutrient materials for direct application.

Table 3. - Change in consumption of fertilizer mixtures and direct-application materials, by region, year ended June 30, 1963, compared with preceding year

Region	Increase or Decrease (-)					
	Mixtures	Materials 1/	Total	Mixtures	Materials 1/	Total
	Tons	Tons	Tons	Percent	Percent	Percent
New England-------	2,362	-884	1,478	0.7	-1.5	0.4
Middle Atlantic---	46,538	26,787	73,325	2.6	12.1	3.7
South Atlantic ---	45,383	113,152	158,535	0.9	10.4	2.5
East North Central	358,450	275,056	633,506	10.7	17.0	12.8
West North Central	288,945	357,738	646,683	17.2	20.1	18.7
East South Central	77,412	12,421	89,833	3.7	1.4	3.0
West South Central	120,370	174,993	295,363	12.9	16.0	14.6
Mountain----------	21,512	13,495	35,007	18.3	2.4	5.2
Pacific-----------	-21,851	176,613	154,762	-4.3	10.5	7.1
Total-----------	939,121	1,149,371	2,088,492	5.9	12.8	8.4
Alaska------------	680	625	1,305	33.3	21.3	26.3
Hawaii------------	667	-14,066	-13,399	0.8	-19.1	-8.6
Puerto Rico-------	11,142	-6,902	4,240	5.1	-17.5	1.6
United States---	951,610	1,129,028	2,080,638	5.9	12.4	8.2

1/ Excludes quantities of secondary- and trace-nutrient materials for direct application.

Table 4. - Grades of fertilizer mixtures consumed, United States, years ended June 30, 1962, and 1963[1/]

Grade[2/]	Consumption		Proportion of total		Grade[2/]	Consumption		Proportion of total	
	1962	1963	1962	1963		1962	1963	1962	1963
	Tons	Tons	Percent	Percent		Tons	Tons	Percent	Percent
0-8-24	0	11,336	0	0.06	7-28-14	154,761	176,500	0.97	1.05
0-9-27	24,516	31,497	0.15	.19	7-31-12	6,636	13,200	.04	.08
0-10-20	102,398	111,803	.64	.66	8-0-8	19,178	13,918	.12	.08
0-10-30	43,202	53,332	.27	.32	8-0-24	37,482	38,468	.24	.23
0-12-36	11,534	15,989	.08	.09	8-2-8	46,702	53,364	.29	.32
0-14-14	139,076	133,251	.87	.80	8-2-10	0	10,462	0	.06
0-15-30	48,939	48,057	.31	.28	8-3-8	0	10,916	0	.07
0-15-45	14,534	14,747	.09	.09	8-4-8	77,170	48,662	.49	.29
0-16-8	44,208	51,507	.28	.30	8-6-4	10,681	11,638	.07	.06
0-18-36	12,342	17,986	.08	.11	8-8-8	252,200	265,594	1.58	1.58
0-20-10	12,441	12,877	.07	.08	8-12-12	68,134	57,579	.43	.34
0-20-20	268,431	290,577	1.69	1.72	8-16-16	182,919	173,653	1.15	1.03
0-24-24	16,539	17,636	.11	.11	8-22-11	0	17,654	0	.11
0-25-25	65,172	77,702	.41	.46	8-24-0	59,500	61,878	.37	.37
0-26-26	4,239	10,979	.02	.06	8-24-8	51,583	53,714	.33	.32
0-30-15	18,285	17,545	.12	.11	8-24-12	29,114	36,865	.18	.21
2-10-20	5,431	10,935	.03	.06	8-24-24	14,189	18,931	.09	.12
2-12-12	230,294	203,786	1.45	1.21	8-32-0	29,767	18,461	.19	.11
3-9-6	14,497	11,751	.09	.07	8-32-16	61,326	122,184	.38	.72
3-9-9	543,066	534,605	3.42	3.18	9-9-9	24,974	34,008	.16	.20
3-9-12	41,268	34,670	.26	.20	9-12-12	28,537	41,743	.18	.25
3-9-13	29,413	29,348	.18	.18	10-0-10	33,340	18,057	.21	.11
3-9-18	92,702	123,169	.58	.73	10-4-10	15,144	11,790	.10	.07
3-9-27	35,734	31,106	.23	.18	10-5-5	13,495	12,061	.08	.07
3-10-8	3/ 21,205	27,655	.13	.17	10-5-10	8,244	13,177	.05	.08
3-12-6	28,607	19,637	.18	.12	10-6-4	119,268	136,607	.75	.81
3-12-12	249,504	190,804	1.57	1.13	10-10-5	16,365	15,691	.11	.09
3-18-18	16,204	17,240	.10	.10	10-10-10	753,040	794,821	4.73	4.72
4-6-8	21,487	17,621	.14	.11	10-15-15	18,741	21,808	.12	.13
4-7-5	62,973	60,156	.39	.35	10-20-0	42,066	32,700	.26	.20
4-8-6	12,663	11,533	.08	.07	10-20-5	12,022	10,143	.08	.06
4-8-8	87,554	82,142	.56	.49	10-20-10	323,136	372,621	2.03	2.21
4-8-10	20,010	20,728	.12	.12	10-20-20	3/ 100,479	175,062	.63	1.04
4-8-12	205,917	199,208	1.30	1.18	10-30-10	20,972	30,179	.14	.18
4-8-16	26,344	25,675	.16	.16	11-12-14	14,851	16,691	.09	.10
4-9-3	54,923	59,050	.35	.35	12-0-10	17,128	18,131	.11	.10
4-10-6	69,607	58,800	.43	.35	12-0-12	19,055	15,579	.12	.10
4-10-10	21,921	23,078	.14	.13	12-6-6	28,878	32,785	.18	.19
4-11-11	13,072	19,552	.08	.12	12-12-12	890,108	946,101	5.60	5.62
4-12-8	90,213	77,316	.57	.46	12-24-12	51,987	60,582	.32	.36
4-12-12	1,211,360	1,108,502	7.62	6.58	13-13-13	101,564	134,282	.64	.80
4-12-36	12,642	12,662	.08	.08	14-0-14	52,104	48,248	.33	.28
4-16-8	16,140	10,763	.10	.06	14-7-7	12,420	11,703	.08	.07
4-16-16	244,028	205,355	1.54	1.22	14-14-7	10,381	10,464	.06	.07
5-7-5	12,934	12,195	.08	.07	14-14-14	76,411	81,417	.48	.48
5-10-5	245,822	232,099	1.54	1.38	15-0-14	10,961	10,553	.07	.06
5-10-10	1,386,153	1,394,354	8.72	8.28	15-0-15	30,194	32,660	.19	.20
5-10-15	577,530	674,083	3.63	4.00	15-5-5	17,895	33,689	.11	.20
5-10-30	26,615	30,100	.17	.18	15-8-4	13,493	10,735	.09	.06
5-20-10	99,872	93,158	.63	.55	15-10-10	67,646	78,107	.42	.46
5-20-20	956,110	1,045,149	6.01	6.21	15-15-0	17,646	14,316	.12	.09
6-4-2	14,960	16,047	.09	.10	15-15-15	68,023	81,317	.42	.48
6-4-6	40,821	28,915	.26	.17	16-8-8	106,666	133,293	.67	.79
6-4-8	67,760	41,382	.43	.24	16-16-8	19,460	12,978	.13	.08
6-6-6	113,688	103,898	.84	.62	16-16-16	5,229	24,431	.03	.14
6-6-12	23,514	24,040	.15	.14	16-20-6	3,374	14,093	.02	.09
6-6-18	15,487	16,404	.09	.10	16-48-0	151,455	201,756	.95	1.20
6-8-6	81,587	72,773	.52	.43	18-46-0	81,253	175,312	.51	1.04
6-8-8	170,129	160,292	1.07	.95	19-9-0	39,462	50,033	.25	.29
6-8-12	14,247	12,549	.09	.08	20-0-20	11,549	10,924	.07	.07
6-10-4	43,409	37,134	.27	.22	20-10-0	14,585	12,645	.10	.07
6-12-6	81,530	70,791	.51	.42	20-10-5	46,841	50,508	.29	.30
6-12-12	519,602	560,146	3.27	3.33	20-10-10	14,264	27,941	.09	.17
6-12-18	16,282	17,874	.10	.10	20-20-0	21,524	15,095	.13	.09
6-18-6	65,642	86,638	.41	.52	22-22-0	263	17,967	.01	.11
6-18-18	14,206	14,675	.09	.08	23-23-0	19,079	19,124	.12	.11
6-24-12	271,137	277,303	1.71	1.65	24-20-0	20,319	16,299	.13	.10
6-24-24	372,471	540,899	2.34	3.21	25-25-0	9,035	10,210	.06	.06
7-21-0	26,086	11,264	.16	.07	29-14-0	8,216	18,971	.05	.11
7-21-7	10,176	22,799	.07	.13	30-10-0	35,599	52,440	.22	.31
Number of grades in class, year ended June 30,			1962	1963					
Grades of 10,000 tons or more			136	140		14,374,734	15,166,118	90.39	90.05
Grades of 5,000 tons to 9,999 tons			51	64		349,095	406,402	2.20	2.41
Grades of 2,500 tons to 4,999 tons			71	76		254,209	203,636	1.60	1.21
Grades under 2,500 tons			1,948	2,359		475,915	372,381	2.99	2.21
Not reported by grade			-----	-----		447,655	692,192	2.82	4.12
Total (48 States and Dist. of Col.)			2,208	2,639		15,901,608	16,840,729	100.00	100.00

1/ Excludes Alaska, Hawaii, and Puerto Rico. 2/ Consumed in amounts of 10,000 or more tons in year ended June 30, 1963. 3/ Revised.

Table 5. - Grades of fertilizer mixtures consumed, by region and State, year ended June 30, 1963

State	Consumption of 15 principal grades in indicated region, (tons)															Other Grades		Total tons
																No.[1]	Tons[2]	
New England																		
	10-10-10	8-12-12	5-10-10	8-16-16	10-15-15	15-10-10	11-12-14	10-6-4	0-25-25	5-10-5	0-15-30	8-6-4	20-10-5	6-8-8	0-10-30			
Maine	25,284	50,716	3,518	10,501	19,721	2,257	16,691	377	32	366	786	175	97	0	548	48	21,081	152,150
New Hampshire	2,577	353	1,375	3,394	191	1,752	0	462	140	775	586	267	280	0	721	42	2,447	15,320
Vermont	8,074	221	2,415	6,939	195	6,399	0	35	7,838	77	2,757	83	42	12	1,184	25	4,367	40,638
Massachusetts	12,916	442	10,023	4,073	0	4,517	0	5,487	30	2,497	518	2,569	2,316	1,159	389	18	24,196	71,132
Rhode Island	2,214	1,228	4,951	592	1,152	462	0	328	47	370	190	1,262	424	7	148	34	3,649	17,024
Connecticut	9,302	494	5,667	1,381	155	3,934	0	4,723	278	2,070	1,306	1,254	1,795	3,426	1,463	79	20,182	57,430
Total	60,367	53,454	27,949	26,880	21,414	19,321	16,691	11,412	8,365	6,155	6,143	5,610	4,954	4,604	4,453	122	75,922	353,694
Middle Atlantic																		
	5-10-10	10-10-10	5-10-5	8-16-16	10-6-4	0-20-20	[3]/10-20-20	6-12-12	16-8-8	6-12-6	0-15-30	5-10-15	12-12-12	15-10-10	10-20-10			
New York	91,758	83,711	66,403	59,450	29,167	17,572	20,610	14,961	17,569	28,802	6,059	8,219	20,764	578	7,937	135	59,188	532,748
New Jersey	77,884	20,467	22,922	2,494	18,700	1,824	3,445	9,280	6,026	1,466	1,510	3,997	315	85	303	115	48,100	218,818
Pennsylvania	213,543	84,954	17,052	38,315	7,712	32,894	21,999	14,793	11,312	1,174	11,681	992	3,394	15,478	11,383	180	86,365	573,041
Delaware	23,332	19,995	1,036	5,188	782	965	1,167	4,866	1,458	74	2,727	9,213	36	3,168	345	103	21,401	95,753
Dist. of Col.	212	194	1,281	0	1,551	0	0	0	12	0	9	13	0	0	31	20	641	3,944
Maryland	92,910	51,413	19,974	11,369	7,110	5,247	4,656	5,669	4,960	699	7,843	2,946	97	5,482	1,937	124	94,099	316,411
West Virginia	26,976	6,004	1,991	324	577	6,992	1,077	270	84	6	90	799	919	17	108	56	13,974	60,208
Total	526,615	266,738	130,659	117,140	65,599	65,494	52,954	49,839	41,421	32,221	29,919	26,179	25,525	24,808	22,044	309	323,768	1,800,923
South Atlantic																		
	5-10-10	4-12-12	3-9-9	5-10-15	2-12-12	4-8-12	10-10-10	6-12-12	3-9-18	8-8-8	6-6-6	0-10-20	4-8-8	6-8-6	4-7-5			
Virginia	219,913	307	57,965	7,772	79,839	5,899	66,036	0	35,865	8,410	0	34,035	0	16,798	0	53	140,774	673,613
North Carolina	441,780	8,942	381,192	1,129	101,726	96,184	38,964	5	43,073	55,923	0	16,527	3	18,989	0	45	183,046	1,387,483
South Carolina	67,538	212,165	49,351	13,795	0	53,232	17,871	5,844	29,302	6,556	0	18,661	0	4,453	0	29	161,546	640,314
Georgia	5,066	380,382	38,396	420,991	3,170	13,890	6,651	104,311	3,115	6,462	5	18,357	19,415	16,919	0	152	132,320	1,169,450
Florida	6,881	81,725	5,920	19,972	2,321	7,860	47,167	9,848	5	25,428	102,183	13,004	62,247	3,335	60,156	1,327	866,337	1,314,389
Total	741,178	683,521	532,824	463,659	187,056	177,065	176,689	120,008	111,360	102,779	102,188	100,584	81,665	60,494	60,156	1,655	1,484,023	5,185,249
East North Central																		
	5-20-20	12-12-12	6-24-24	6-24-12	4-16-16	7-28-14	3-12-12	10-10-10	0-20-20	16-8-8	5-10-10	6-18-6	18-46-0	8-32-16	14-14-14			
Ohio	209,761	204,985	13,718	129,236	22,317	2,825	64,563	17,983	33,986	22,387	57,754	6,532	9,673	10,061	5,702	173	147,924	959,407
Indiana	263,059	149,717	111,500	20,300	54,368	14,288	10,600	13,171	26,558	13,790	1,078	8,709	13,674	9,172	17,909	316	219,795	947,688
Illinois	76,271	70,281	61,138	6,864	47,880	108,177	5,768	48,618	30,199	20,464	44	36,794	24,334	14,555	14,042	205	220,470	785,899
Michigan	160,069	134,231	22,277	83,152	54,844	1,783	23,530	5,902	3,752	8,031	1,117	927	3,674	14,487	4,541	144	117,130	639,447
Wisconsin	90,731	8,905	76,179	1,709	15,004	3,111	10,774	25,738	11,076	1,112	70	1,367	2,252	1,906	2,725	119	114,233	366,892
Total	799,891	568,119	284,812	241,261	194,413	130,184	115,235	111,412	105,571	65,784	60,063	54,329	53,607	50,181	44,919	516	819,552	3,699,333
West North Central																		
	12-12-12	6-24-24	5-20-20	16-48-0	18-46-0	8-32-16	5-20-10	7-28-14	8-24-8	30-10-0	10-20-10	8-24-12	10-10-10	6-24-12	0-20-20			
Minnesota	10,468	73,949	54,515	8,734	17,894	19,345	9,182	11,040	0	225	1,032	31,252	7,895	26,153	6,181	186	149,949	427,814
Iowa	16,179	58,504	78,189	13,713	36,544	29,725	48,769	28,932	337	12,586	5,966	1,231	20,155	7,035	17,797	424	187,847	563,509
Missouri	196,186	35,525	24,474	1,332	6,559	11,193	368	4,959	21,811	706	9,087	0	4,833	244	3,944	139	260,618	581,839
North Dakota	192	0	193	8,743	4,618	2,258	0	0	0	56	281	484	0	198	0	46	40,308	57,331
South Dakota	142	0	0	1,780	2,665	182	12	16	0	1,773	152	179	80	63	13	67	19,791	26,848
Nebraska	604	23	631	22,368	10,852	3,342	2,707	87	907	7,458	2,419	1,413	226	47	197	132	58,428	111,709
Kansas	6,187	1,215	1,349	67,204	19,367	1,069	13	70	14,929	13,804	16,753	0	709	55	683	107	59,610	203,017
Total	229,958	169,216	159,351	123,874	98,499	67,114	61,051	45,104	37,984	36,608	35,690	34,559	33,898	33,795	28,815	688	776,551	1,972,067

East South Central

	4-12-12	6-12-12	5-10-15	6-8-8	10-10-10	8-8-8	0-14-14	13-13-13	4-12-8	5-20-20	0-20-20	0-16-8	9-12-12	6-24-24	5-10-5			
Kentucky	886	37,664	129,780	0	69,781	253	12	20	65,157	52,374	11,272	0	0	1,988	2,122	238	143,704	515,013
Tennessee	1,393	294,580	39,166	462	17,328	527	157	1,276	4,461	4,036	9,561	6	66	1,159	2,556	112	119,883	496,617
Alabama	410,070	20,362	1,994	38	22,130	77,590	73,542	17,632	468	224	6,701	49,148	6	21,396	540	69	74,318	776,159
Mississippi	0	4,461	0	118,178	707	4,286	1,920	53,338	0	442	27,726	765	41,627	17,152	34,367	25	54,326	359,295
Total	412,349	357,067	170,940	118,678	109,946	82,656	75,631	72,266	70,086	57,076	55,260	49,919	41,699	41,695	39,585	283	392,231	2,147,084

West South Central

	10-20-10	12-12-12	8-8-8	6-24-24	6-12-6	12-24-12	0-20-20	16-48-0	13-13-13	18-46-0	0-24-24	10-20-0	10-20-20	5-20-20	0-15-30			
Arkansas	39,897	23,263	2,084	7,380	6,581	325	16,991	35	4,075	1,150	15,962	1,827	5,523	1,151	10,893	81	79,773	216,910
Louisiana	9,608	37,787	36,791	21,685	3,391	2,148	9,314	0	9,654	318	9	6	808	8,391	0	70	52,303	192,213
Oklahoma	68,190	1,458	357	4,550	2,318	5,540	3,422	22,712	1,079	6,619	0	7,652	2,502	2,327	27	76	29,312	158,065
Texas	170,162	8,777	12,650	5,419	19,430	23,688	1,642	7,607	8,030	8,628	0	6,004	5,872	1,732	34	394	206,834	486,509
Total	287,857	71,285	51,882	39,034	31,720	31,701	31,369	30,354	22,838	16,715	15,971	15,489	14,705	13,601	10,954	449	368,222	1,053,697

Mountain

	16-48-0	8-24-0	25-25-0	24-20-0	22-22-0	10-20-5	6-10-4	27-12-0	18-46-0	20-20-0	10-34-0	16-16-8	20-10-5	30-10-0	10-20-0			
Montana	3,811	805	54	176	1,594	0	328	2,701	4	80	125	284	111	0	0	28	2,339	12,412
Idaho	2,937	4,522	2,036	4,810	2,075	0	192	1,415	0	1,646	2,783	160	39	0	0	37	6,817	29,432
Wyoming	1,749	0	91	40	1,017	0	35	17	56	50	0	30	63	0	0	10	386	3,534
Colorado	10,152	0	623	82	281	0	502	134	2,905	144	63	1,304	1,419	1,142	229	126	16,810	35,790
New Mexico	1,294	50	0	0	102	25	104	0	1,234	105	89	121	97	464	1	50	7,386	11,072
Arizona	4,118	1,483	3,746	313	1,287	6,327	317	104	0	1,707	0	257	161	195	1,735	81	14,364	36,114
Utah	55	0	50	1,037	15	0	2,796	88	0	0	27	499	80	72	0	31	4,720	9,439
Nevada	5	0	97	20	0	0	255	38	0	11	24	165	43	104	0	29	772	1,534
Total	24,121	6,860	6,697	6,478	6,371	6,352	4,529	4,497	4,199	3,743	3,111	2,820	2,013	1,977	1,965	242	53,594	139,327

Pacific

	19-9-0	10-10-10	8-24-0	6-4-2	16-48-0	10-20-20	10-10-5	12-12-12	15-8-4	6-20-20	13-13-13	6-10-4	8-23-0	14-14-7	11-8-4			
Washington	80	512	10,219	0	6,951	6,895	100	156	0	1,813	112	859	5,546	36	0	123	32,294	65,573
Oregon	790	317	3,873	0	1,909	5,214	0	750	0	3,363	295	1,119	703	321	0	84	28,076	46,730
California	48,347	28,655	14,731	15,092	5,040	101	11,020	8,755	8,850	1,848	6,345	4,443	0	5,147	4,733	4/186	213,945	377,052
Total	49,217	29,484	28,823	15,092	13,900	12,210	11,120	9,661	8,850	7,024	6,752	6,421	6,249	5,504	4,733	329	274,315	489,355

Other 2/

	14-4-10	12-6-8	8-6-10	12-6-10	15-4-7	12-6-16	6-8-10	9-25-15	20-0-33	7-38-6	13-3-12	16-4-5	9-10-5	10-10-20	14-2-8			
Puerto Rico 6/	54,069	17,848	16,975	16,674	12,744	12,536	8,666	7,077	6,457	5,649	5,306	5,303	4,898	4,398	4,177	42	46,913	229,690

United States 7/

	5-10-10	4-12-12	5-20-20	12-12-12	10-10-10	5-10-15	6-12-12	6-24-24	3-9-9	10-20-10	0-20-20	6-24-12	8-8-8	5-10-5	4-16-16			
New England	27,949	23	677	3,094	60,367	1	693	0	0	775	938	0	184	6,155	5	125	252,833	353,694
Mid. Atlantic	526,615	11,082	13,666	25,525	266,738	26,179	49,839	3,875	1,078	22,044	65,494	523	16,250	130,659	906	309	640,450	1,800,923
So. Atlantic	741,178	683,521	870	6,138	176,689	463,659	120,008	2,205	532,824	3,452	1,911	0	102,779	41,304	912	1,656	2,307,799	5,185,249
E. No. Central	60,063	433	799,891	568,119	111,412	13,049	21,483	284,812	109	16,745	105,571	241,261	7,113	8,575	194,413	516	1,366,284	3,699,333
W. No. Central	1,227	475	159,351	229,958	33,898	0	6,321	169,216	6	35,690	28,815	33,795	4,679	3,261	4,231	689	1,261,144	1,972,067
E. So. Central	25,766	412,349	57,076	32,218	109,946	170,940	357,067	41,695	229	2,414	55,260	761	82,656	39,585	429	283	758,693	2,147,084
W. So. Central	9,645	606	13,601	71,285	5,637	255	4,657	39,034	0	287,857	31,369	956	51,882	2,050	44	450	534,819	1,053,697
Mountain	242	0	2	103	650	0	78	7	359	250	149	7	0	434	0	246	137,046	139,327
Pacific	1,669	13	15	9,661	29,484	0	0	55	0	3,394	1,070	0	51	76	4,415	333	439,452	489,355
Total	1,394,354	1,108,502	1,045,149	946,101	794,821	674,083	560,146	540,899	534,605	372,621	290,577	277,303	265,594	232,099	205,355	2,624	7,598,520	16,840,729

1/ Principally mixtures marketed as registered grades. 2/ Includes tonnage of mixtures not reported by grade. 3/ Totals in year ended June 30, 1962: N. Y., 12,808 tons; N. J., 2,972 tons; Pa., 15,046 tons; Del., 492 tons; D. C., 0 tons; Md., 3,325 tons; and W. Va., 836 tons. 4/ Total number of mixtures exceeds 500 of which only 200 were reported by grade. 5/ Total consumption of mixtures in Alaska was 2,720 tons (principal grades: 8-32-16, 10-20-20, 15-32-15) and in Hawaii 83,774 tons, comprising 198 grades, most of which were manufactured to consumers' specifications. 6/ Principal grades in year ended June 30, 1962, are: 14-4-10, 60,846 tons; 12-6-10, 15,759 tons; 12-6-8, 15,678 tons; 12-6-16, 13,791 tons; 15-4-7, 13,679 tons; 8-6-10, 11,606 tons; 14-2-8, 9,180 tons; 9-25-15, 9,112 tons; 6-8-10, 8,888 tons; 10-6-20, 7,998 tons; 10-5-20, 5,246 tons; 12-8-14, 5,075 tons; 9-10-5, 4,890 tons; 13-3-12, 4,380 tons; and 16-4-5, 4,026 tons. 7/ Excludes Alaska, Hawaii, and Puerto Rico.

Table 6. - Primary-nutrient ratios of mixtures totaling 50,000 or more tons in United States and consumption in region, year ended June 30, 1963

Primary-nutrient ratio[1]	New England	Middle Atlantic	South Atlantic	East North Central	West North Central	East South Central	West South Central	Mountain	Pacific	Alaska, Hawaii, and Puerto Rico	United States
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
0:1:1	9,303	76,406	67,842	149,689	50,908	135,801	57,744	154	1,083	70	549,000
0:1:2	6,157	32,626	114,659	5,999	753	10,419	11,259	4	8	0	181,884
0:1:3	4,453	7,694	24,519	60,531	14,490	27,081	933	0	0	0	139,701
0:2:1	14	725	6,377	4,343	18,687	50,711	2,836	99	0	0	83,792
1:0:1	0	99	138,706	888	139	4,200	815	1	0	3,372	148,220
1:1:0	0	211	39	594	44,015	157	18,682	20,012	8,580	20	92,310
1:1:1	70,739	322,182	396,518	803,128	336,220	332,473	170,869	3,658	55,424	1,230	2,492,441
1:2:0	0	40	1,666	0	24,972	379	18,554	3,443	1,310	7	50,371
1:2:1	6,985	189,833	53,061	29,145	69,606	42,456	365,597	1,779	3,515	520	762,497
1:2:2	58,670	750,078	971,866	117,479	34,473	416,800	29,300	349	13,976	5,531	2,398,522
1:2:3	2	49,957	644,447	15,291	1,455	185,241	463	0	13	6	896,875
1:3:0	4	262	243	15,789	145,695	694	43,956	34,141	42,723	0	283,507
1:3:1	300	15,487	227	61,171	116,070	4,211	7,943	3,180	4,866	892	214,347
1:3:2	711	1,381	651	4,716	3,985	86,433	2,909	3	107	90	100,986
1:3:3	23	18,689	1,220,148	3,875	714	437,810	644	359	42	0	1,682,304
1:3:6	6	1,706	113,749	7,730	3,180	5,606	4,343	0	0	27	136,347
1:4:2	1,321	27,426	5,910	441,205	207,072	11,610	4,390	324	293	832	700,383
1:4:4	682	37,801	32,202	1,394,359	340,109	113,298	60,468	12	4,485	0	1,983,416
1:6:6	44	17,367	203,137	33	0	461	0	0	1	0	221,043
2:1:1	4,963	51,773	34,001	87,130	33,085	5,737	9,430	1,174	737	0	228,030
2:1:2	4,041	348	53,640	351	2,584	1,267	8,688	0	3,067	1,408	75,394
2:2:1	0	210	665	258	14,210	193	19,025	5,196	25,361	1,049	66,167
2:3:3	74,870	740	8,672	54	5	0	18	0	91	3	84,453
2:5:3	3	33	58,764	0	0	0	0	0	0	0	58,800
3:1:0	60	150	2,764	664	38,985	7,400	3,424	2,077	113	0	55,637
3:2:2	19,321	26,088	6,219	8,677	28,179	4,945	430	0	972	784	95,615
3:4:3	165	2,272	60,495	29	11	9,802	0	0	0	2	72,776
3:4:4	4,604	13	36,475	30	17	168,359	538	5	33	0	210,074
4:1:4	0	0	53,840	0	0	0	0	0	0	0	53,840
4:2:1	4,967	13,643	822	21,891	12,709	284	472	2,115	3,466	0	60,369
4:7:5	0	0	60,156	0	0	0	0	0	0	0	60,156
4:9:3	0	0	58,682	0	0	368	0	0	0	0	59,050
5:3:2	11,412	65,599	6,491	43,364	5,926	2,737	251	1,161	69	0	137,010
7:2:5	0	0	67	0	0	0	0	0	0	54,069	54,136
9:23:0	17	686	82	53,607	98,499	1,507	16,715	4,199	0	783	176,095
19:9:0	0	0	0	0	11	0	672	133	49,217	0	50,033
Other[2]	69,857	89,398	747,447	367,313	325,303	78,644	192,329	55,749	269,803	245,489	2,441,332
Total	353,694	1,800,923	5,185,249	3,699,333	1,972,067	2,147,084	1,053,697	139,327	489,355	316,184	17,156,913

1/ N: available P_2O_5: K_2O. 2/ All other mixtures including those not reported by grade.

Table 7. - Average primary-nutrient content of mixtures and direct-application materials consumed, by State and region, year ended June 30, 1963

State and region	Mixtures 1/				Materials 2/					Total in mixtures and materials 2/
					Single nutrients			Multiple nutrients	Total	
	N	Available P_2O_5	K_2O	Total	N	Available P_2O_5 3/	K_2O			
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Maine	9.00	12.37	12.91	34.28	32.94	20.48	52.18	13.54	26.37	33.89
New Hampshire	8.34	12.94	13.63	34.91	28.93	20.80	60.71	9.68	21.37	32.52
Vermont	7.27	15.05	17.27	39.59	35.44	20.32	60.37	9.04	22.32	35.01
Massachusetts	9.15	10.01	9.62	28.78	25.78	19.81	55.23	11.41	17.77	26.85
Rhode Island	7.86	10.80	10.44	29.10	19.31	19.21	50.00	10.91	13.21	27.42
Connecticut	9.71	10.87	10.95	31.53	29.45	25.55	47.29	11.45	19.42	28.97
New England	8.87	11.91	12.34	33.12	29.53	21.31	53.12	11.46	20.56	31.34
New York	7.61	12.95	11.35	31.91	33.66	21.61	50.66	12.24	26.74	31.30
New Jersey	6.96	10.40	10.51	27.87	21.58	21.80	57.33	10.44	23.50	27.42
Pennsylvania	6.72	12.86	12.46	32.04	33.52	25.07	59.16	13.11	29.24	31.67
Delaware	6.72	11.46	13.17	31.35	33.50	21.18	59.83	9.10	33.88	31.56
Dist. of Columbia	8.09	9.08	6.01	23.18	23.01	20.41	50.00	8.08	10.16	20.10
Maryland	6.35	11.28	11.97	29.60	39.22	19.81	24.61	16.11	34.18	30.10
West Virginia	4.84	12.89	12.28	30.01	24.77	25.05	54.20	21.79	26.07	29.29
Middle Atlantic	6.89	12.23	11.83	30.95	33.72	23.48	49.32	12.43	28.59	30.66
Virginia	4.44	10.75	12.00	27.19	27.75	26.99	32.10	34.64	28.44	27.36
North Carolina	4.70	9.41	10.88	24.99	27.30	20.48	32.00	19.82	27.17	25.38
South Carolina	4.63	10.31	11.95	26.89	21.61	16.82	56.55	25.99	22.91	25.89
Georgia	4.95	10.51	13.24	28.70	31.22	17.88	56.27	24.14	31.13	29.27
Florida	6.53	6.69	10.12	23.34	26.79	9.88	43.52	18.44	24.72	23.54
South Atlantic	5.18	9.25	11.50	25.93	27.53	17.69	39.29	19.77	27.24	26.18
Ohio	7.49	17.29	13.84	38.62	36.04	23.80	58.33	23.50	35.82	38.12
Indiana	7.39	18.85	17.88	44.12	42.48	26.00	60.66	52.60	45.21	44.45
Illinois	7.96	20.22	13.65	41.83	46.98	10.60	60.13	32.10	30.92	35.56
Michigan	7.57	17.48	15.84	40.89	42.80	22.98	57.09	18.36	39.64	40.70
Wisconsin	5.75	18.19	21.98	45.92	41.66	35.99	60.13	14.18	46.71	46.07
East North Central	7.40	18.44	15.99	41.83	43.50	12.65	59.97	28.87	35.89	39.82
Minnesota	8.06	24.17	15.97	48.20	42.97	41.83	60.85	42.01	44.93	47.20
Iowa	9.15	23.06	12.56	44.77	45.29	38.07	61.16	40.48	45.03	44.90
Missouri	10.68	15.47	14.17	40.32	46.65	5.35	60.52	21.88	27.81	34.84
North Dakota	17.07	31.01	3.32	51.40	41.54	47.10	61.11	53.31	50.42	50.77
South Dakota	19.70	24.60	1.19	45.49	34.94	46.21	53.86	42.77	39.19	41.31
Nebraska	14.60	29.37	2.97	46.94	52.93	40.75	53.79	41.16	51.31	50.38
Kansas	15.71	31.68	4.47	51.86	38.01	44.00	60.62	37.70	38.43	43.06
West North Central	10.72	22.56	11.98	45.60	45.47	23.78	60.62	43.58	41.59	43.35
Kentucky	6.26	13.86	13.52	33.64	37.64	27.33	53.15	42.04	37.23	34.41
Tennessee	6.45	12.75	13.58	32.78	38.32	26.68	58.04	47.23	38.80	34.26
Alabama	4.60	12.90	12.66	30.16	29.20	15.02	58.46	28.52	27.77	29.56
Mississippi	7.34	12.01	11.67	31.02	38.75	15.89	59.46	40.14	35.06	32.97
East South Central	5.89	12.95	12.91	31.75	35.49	19.70	56.52	42.39	33.97	32.40
Arkansas	7.39	17.25	16.72	41.36	39.92	38.46	60.11	42.09	42.76	42.07
Louisiana	8.35	14.79	13.31	36.45	41.46	19.19	46.53	31.32	39.66	37.91
Oklahoma	11.35	25.08	8.05	44.48	39.23	29.07	59.46	39.46	37.79	41.12
Texas	10.85	18.88	8.02	37.75	53.97	29.63	58.43	38.08	46.94	43.32
West South Central	9.76	18.73	10.78	39.27	47.67	29.69	58.33	38.21	44.21	41.97
Montana	18.60	27.27	1.74	47.61	39.51	46.73	60.42	45.56	44.88	45.41
Idaho	17.04	24.89	1.01	42.94	34.11	47.53	59.97	33.60	36.61	37.70
Wyoming	18.93	35.20	0.34	54.47	42.57	45.82	56.49	58.52	46.10	47.45
Colorado	15.47	31.19	3.72	50.38	38.94	44.06	52.90	20.91	35.07	38.82
New Mexico	16.94	22.26	2.29	41.49	50.12	36.35	37.37	46.64	44.79	44.17
Arizona	15.52	24.65	3.12	43.29	41.59	42.70	47.08	43.86	42.16	42.36
Utah	14.32	13.47	2.86	30.65	46.15	37.86	60.23	33.03	42.21	39.28
Nevada	13.75	12.78	4.11	30.64	47.20	47.35	0	31.59	40.51	38.51
Mountain	16.20	25.80	2.56	44.56	39.94	43.94	50.61	36.13	40.01	40.90
Washington	12.78	22.32	7.07	42.17	36.30	39.46	54.46	38.23	37.27	38.15
Oregon	11.48	18.91	10.52	40.91	27.80	23.91	51.04	39.35	30.17	32.13
California	13.24	11.66	5.07	29.97	30.94	25.39	54.56	15.88	25.54	26.51
Pacific	13.01	13.78	5.86	32.65	31.60	27.00	53.93	19.19	27.94	28.92
48 States & D. C.	7.27	14.54	12.49	34.30	38.77	21.40	56.12	28.50	35.46	34.73
Alaska	10.96	25.88	15.97	52.81	34.27	46.87	56.25	60.82	38.95	44.95
Hawaii	13.18	9.22	21.38	43.78	26.47	13.08	54.57	59.69	27.25	36.92
Puerto Rico	12.02	7.53	11.54	31.09	26.73	31.10	59.76	60.64	28.61	30.78
United States: 1962-63	7.36	14.42	12.52	34.30	38.63	21.36	56.12	28.58	35.39	34.71
1961-62	7.08	13.70	12.17	32.95	37.24	21.60	54.90	28.92	34.15	33.38
1960-61	6.81	13.15	11.97	31.93	36.37	19.55	55.48	27.93	32.65	32.18

1/ Guaranteed to contain 2 or more of the primary nutrients, N, P_2O_5, or K_2O. 2/ Includes only materials guaranteed to contain 1 or more primary nutrients. 3/ Includes available P_2O_5 from colloidal phosphate (2 percent by weight) and from phosphate rock (3 percent by weight).

Table 8. - Direct-application fertilizer materials consumed, by State and region, year ended June 30, 1963[1/]

State and region	Chemical nitrogen materials										Natural organics[3/]
	Ammonia		Ammonium nitrate[2/]	Ammonium nitrate-Limestone	Ammonium sulfate	Calcium cyanamide	Nitrogen solutions	Sodium nitrate	Urea	Other[3/]	
	Anhydrous	Aqua									
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Maine	0	0	1,715	0	46	108	738	164	504	69	1,572
New Hampshire	0	0	319	0	7	9	141	46	87	54	914
Vermont	0	0	669	0	2	0	175	8	422	54	144
Massachusetts	0	0	955	0	279	95	383	468	829	14	8,707
Rhode Island	0	0	60	0	0	76	0	23	27	20	1,441
Connecticut	0	0	380	0	71	100	539	259	446	132	7,854
New England	0	0	4,098	0	405	388	1,976	968	2,315	343	20,632
New York	1,166	0	13,493	469	721	1,509	5,307	2,700	6,455	680	12,640
New Jersey	290	0	3,459	291	1,862	1,092	1,909	1,522	1,266	235	8,072
Pennsylvania	2,031	0	8,905	115	7,150	756	9,603	1,124	6,720	481	13,558
Delaware	38	0	775	49	2	873	3,684	67	622	25	503
District of Columbia	0	0	21	0	1	0	0	14	26	3	1,075
Maryland	4,183	35	4,299	403	75	930	13,422	2,710	1,851	105	2,152
West Virginia	0	0	925	35	347	9	147	1,290	198	22	417
Middle Atlantic	7,708	35	31,877	1,362	10,158	5,169	34,072	9,427	17,138	1,551	38,417
Virginia	132	0	6,074	13,469	718	893	30,079	9,911	1,254	240	1,206
North Carolina	6,272	0	17,639	75,593	297	2,343	84,699	59,170	1,960	62	3,684
South Carolina	2,045	0	15,155	56,102	306	147	60,630	54,121	544	483	1,410
Georgia	19,882	23	98,097	30,760	2,892	206	137,333	49,363	252	2,042	2,778
Florida	4,906	0	30,171	9,091	5,747	1,732	38,395	18,537	3,389	10,768	24,263
South Atlantic	33,237	23	167,136	185,015	9,960	5,321	351,136	191,102	7,399	13,595	33,341
Ohio	11,297	1,728	17,901	115	21,672	263	58,046	690	24,929	631	8,870
Indiana	56,749	27,705	39,220	6	11,619	61	135,972	175	25,897	129	2,055
Illinois	141,469	22,143	96,089	60	64,963	33	85,066	32	6,139	575	11,906
Michigan	14,235	18	17,584	15	2,542	25	27,446	1,275	13,800	523	13,330
Wisconsin	3,794	313	9,558	0	1,338	0	15,641	0	2,120	231	7,380
East North Central	227,544	51,907	180,352	196	102,134	382	322,171	2,172	72,885	2,089	43,541
Minnesota	19,800	9,263	19,574	0	818	15	56,305	0	1,079	116	4,776
Iowa	97,674	59,463	75,443	0	1,494	0	147,416	0	4,502	378	1,603
Missouri	56,836	372	98,109	0	285	0	50,221	386	9,517	403	3,305
North Dakota	2,202	0	5,181	0	914	0	2,224	0	50	28	113
South Dakota	1,459	2,799	21,094	0	583	0	1,670	0	1,187	254	347
Nebraska	150,717	21,778	75,626	0	2,438	46	100,532	0	4,205	1,872	721
Kansas	31,612	95	125,622	1	651	0	118,534	77	21,548	1,166	971
West North Central	360,300	93,770	420,649	1	7,183	61	476,902	463	42,088	4,217	11,836
Kentucky	8,911	0	47,945	973	800	1,626	10,654	3,029	1,595	41	1,267
Tennessee	21,963	0	58,195	325	91	1,105	12,795	27,271	2,661	74	1,332
Alabama	10,130	0	83,720	27,382	6,235	136	32,044	51,175	2,012	456	1,213
Mississippi	46,934	576	118,216	6,093	1,468	2,753	22,593	50,211	4,417	32	209
East South Central	87,938	576	308,076	34,773	8,594	5,620	78,086	131,686	10,685	603	4,021
Arkansas	23,635	616	52,985	104	1,745	3,120	19,910	23,983	28,285	33	105
Louisiana	31,962	5,602	48,011	8	12,883	307	11,176	18,862	10,139	12	704
Oklahoma	10,724	0	33,972	0	1,939	0	30,557	294	19,406	61	1,420
Texas	213,654	24,744	59,665	0	83,724	39	34,727	1,773	34,246	3,926	4,721
West South Central	279,975	30,962	194,633	112	100,291	3,466	96,370	44,912	92,076	4,032	6,950
Montana	1,703	1,144	7,174	0	583	0	69	0	370	26	64
Idaho	10,759	11,487	27,175	0	28,663	130	8,023	0	5,353	488	4,382
Wyoming	1,984	100	5,658	0	869	0	913	0	693	17	75
Colorado	7,692	290	33,392	0	6,025	0	2,456	0	3,619	2,520	22,594
New Mexico	8,355	253	2,417	0	4,184	0	4,167	0	4,751	51	398
Arizona	29,957	13,964	6,658	345	18,298	961	18,010	117	23,474	9,763	1,642
Utah	5,092	152	5,797	0	4,405	0	64	0	1,299	35	1,001
Nevada	956	86	246	0	897	0	0	0	197	139	710
Mountain	66,498	27,476	88,517	345	63,924	1,091	33,702	117	39,756	13,039	30,866
Washington	44,930	76,127	27,819	60	32,281	274	36,473	76	12,654	1,809	4,647
Oregon	5,960	34,057	15,901	0	69,122	375	7,844	0	19,685	1,114	1,689
California	112,176	234,654	38,264	0	274,720	4,156	54,641	361	30,524	17,179	4/ 348,458
Pacific	163,066	344,838	81,984	60	376,123	4,805	98,958	437	62,863	20,102	354,794
48 States & D. C.	1,226,266	549,587	1,477,322	221,864	678,772	26,303	1,493,373	381,284	347,205	59,571	544,398
Alaska	0	0	2,846	0	5	0	0	0	52	0	0
Hawaii	0	22,190	18	0	10,131	8	134	50	9,925	138	26
Puerto Rico	0	7,388	0	0	15,055	1	0	9	7,257	0	0
United States: 1962-63	1,226,266	579,165	1,480,186	221,864	703,963	26,312	1,493,507	381,343	364,439	59,709	544,424
1961-62	934,743	496,303	1,387,769	230,912	557,701	31,651	1,190,979	407,792	292,622	67,888	527,836
1960-61	811,490	432,494	1,324,569	241,363	552,264	38,198	948,785	407,766	203,934	79,199	526,865

1/ Excludes liming materials and the quantities of materials used in the manufacture of commercial mixtures. 2/ Undetermined quantities may have been used for nonagricultural purposes. 3/ The principal kinds are shown separately, by region, in table 1. 4/ Includes an estimate of 301,000 tons of dried manures.

Table 8. - Direct-application fertilizer materials consumed, by State and region, year ended June 30, 1963 - Continued

State and region	Phosphate materials					Potash materials		Total primary-nutrient materials	Secondary- and trace-nutrient materials		Total all materials
	Phosphate rock 5/	Superphosphates: Grades 22 percent and under	Superphosphates: Grades over 22 percent	Ammoniated phosphates 6/	Other 3/	Chloride 50-62 percent grades	Other 3/		Gypsum	Other 3/	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Maine	50	2,341	21	10	89	158	363	7,948	15	54	8,017
New Hampshire	5	1,495	0	1	65	139	3	3,285	0	17	3,302
Vermont	30	12,877	3	0	35	259	11	14,689	0	10	14,699
Massachusetts	167	2,100	55	33	511	250	236	15,082	25	14	15,121
Rhode Island	8	169	0	1	173	5	3	2,006	0	5	2,011
Connecticut	30	3,629	269	42	905	201	512	15,369	0	16	15,385
New England	290	22,611	348	87	1,778	1,012	1,128	58,379	40	116	58,535
New York	458	20,296	498	98	696	1,118	2,996	71,300	1,017	498	72,815
New Jersey	184	2,794	339	11	900	1,377	183	25,786	232	75	26,093
Pennsylvania	1,667	23,695	3,032	1,211	2,957	6,163	515	89,683	4,608	91	94,382
Delaware	150	351	116	0	43	809	15	8,122	262	325	8,709
District of Columbia	3	46	0	0	25	4	2	1,220	0	0	1,220
Maryland	350	2,083	123	192	2,360	1,208	2,551	39,032	197	49	39,278
West Virginia	274	7,566	886	103	702	471	88	13,480	86	53	13,619
Middle Atlantic	3,086	56,831	4,994	1,615	7,683	11,150	6,350	248,623	6,402	1,091	256,116
Virginia	1,780	16,055	783	684	4,400	7,558	10,686	105,922	15,741	159	121,822
North Carolina	1,017	14,798	223	186	2,754	10,224	19,286	300,207	44,778	47	345,032
South Carolina	262	9,820	88	152	3,863	8,273	1,544	214,945	3,967	100	219,012
Georgia	112	4,433	59	427	1,687	2,843	2,437	355,626	49,482	337	405,445
Florida	13,227	8,086	627	819	10,952	9,088	30,009	219,807	3,257	2,624	225,688
South Atlantic	16,398	53,192	1,780	2,268	23,656	37,986	63,962	1,196,507	117,225	3,267	1,316,999
Ohio	6,006	19,032	8,787	3,538	720	21,482	2,289	207,996	84	792	208,872
Indiana	10,260	3,959	12,685	10,469	199	79,555	680	417,395	54	210	417,659
Illinois	405,343	18,273	80,601	7,883	808	120,902	459	1,062,744	114	122	1,062,980
Michigan	1,415	5,212	2,039	2,455	627	13,457	1,787	117,785	451	5,574	123,810
Wisconsin	1,935	1,682	3,113	692	2,177	38,645	489	89,108	175	1,401	90,684
East North Central	424,959	48,158	107,225	25,037	4,531	274,041	5,704	1,895,028	878	8,099	1,904,005
Minnesota	1,040	3,987	26,394	21,267	338	23,933	178	188,883	569	689	190,141
Iowa	4,433	26,532	61,178	16,702	1,690	39,395	15	537,918	44	1,825	539,787
Missouri	198,990	1,017	11,030	1,615	361	21,053	279	453,779	74	48	453,901
North Dakota	80	0	27,173	63,255	103	126	0	101,449	59	12	101,520
South Dakota	135	250	8,242	14,252	21	571	142	53,006	0	86	53,092
Nebraska	1,729	6,428	27,386	17,572	2,388	2,346	647	416,431	191	721	417,343
Kansas	993	663	23,286	58,621	8	1,309	39	385,196	137	20	385,353
West North Central	207,400	38,877	184,689	193,284	4,909	88,733	1,300	2,136,662	1,074	3,401	2,141,137
Kentucky	6,567	20,807	5,273	2,822	6,754	12,859	8,590	140,513	3	345	140,861
Tennessee	532	11,447	3,845	4,800	3,377	10,860	1,904	162,577	320	60	162,957
Alabama	2,360	23,092	533	360	12,408	5,811	626	259,693	4,952	102	264,747
Mississippi	2,519	34,032	1,818	294	28,563	13,659	592	334,979	6	7	334,992
East South Central	11,978	89,378	11,469	8,276	51,102	43,189	11,712	897,762	5,281	514	903,557
Arkansas	689	4,157	11,745	2,927	198	30,151	133	204,521	120	20	204,661
Louisiana	2,724	6,378	1,816	3,257	1,298	3,422	1,712	160,273	39	13	160,325
Oklahoma	3,199	12,049	10,737	33,394	61	1,297	30	159,140	2	0	159,142
Texas	17,691	35,937	36,898	182,787	4,568	7,730	736	747,566	2,149	2,236	751,951
West South Central	24,303	58,521	61,196	222,365	6,125	42,600	2,611	1,271,500	2,310	2,269	1,276,079
Montana	483	0	19,830	15,628	4,965	144	0	52,183	492	51	52,726
Idaho	0	1,113	19,303	18,289	5,488	649	13	141,315	6,680	2,651	150,646
Wyoming	113	0	4,794	2,840	198	118	13	18,385	4	1	18,390
Colorado	1,869	100	18,318	8,460	1,538	1,161	340	110,374	770	272	111,416
New Mexico	266	6,075	9,489	6,617	411	257	420	48,111	37	0	48,148
Arizona	40	3,359	2,675	33,069	5,758	121	922	169,133	17,329	10,779	197,241
Utah	0	2,073	4,506	3,178	167	88	0	27,857	272	96	28,225
Nevada	0	31	841	1,893	52	0	0	6,048	1,209	322	7,579
Mountain	2,771	12,751	79,756	89,974	18,577	2,538	1,708	573,406	26,793	14,172	614,371
Washington	245	4,881	9,294	34,285	2,558	6,185	2,595	297,193	17,113	7,114	321,420
Oregon	17	11,008	1,706	37,207	160	2,841	1,299	209,985	10,797	940	221,722
California	188	84,556	9,429	115,766	11,715	2,264	9,322	1,348,373	1,173,290	54,138	2,575,801
Pacific	450	100,445	20,429	187,258	14,433	11,290	13,216	1,855,551	1,201,200	62,192	3,118,943
48 States & D. C.	691,635	480,764	471,886	730,164	132,794	512,539	107,691	10,133,418	1,361,203	95,121	11,589,742
Alaska	0	0	21	561	3	33	32	3,553	0	0	3,553
Hawaii	6,647	2,143	1,800	2,455	3	2,609	1,145	59,422	10	2,217	61,649
Puerto Rico	0	689	491	262	0	1,301	128	32,581	1	41	32,623
United States: 1962-63	698,282	483,596	474,198	733,442	132,800	516,482	108,996	10,228,974	1,361,214	97,379	11,687,567
1961-62	627,159	481,266	465,067	718,558	144,038	427,491	110,171	9,099,946	1,223,936	85,852	10,409,734
1960-61	808,711	492,657	438,398	652,369	171,696	411,691	96,409	8,638,858	1,113,423	80,138	9,832,419

5/ Includes colloidal phosphate, the quantity of which is shown separately, by region, in table 1. 6/ Total of 11-48-0, 13-39-0, 16-20-0, 21-53-0, and 27-14-0 grades. The separate quantities of which are shown, by State, in table 10.

Table 9. - Change in consumption of classes of direct-application fertilizer materials, by region, year ended June 30, 1963, compared with preceding year

Region	Increase or decrease (-)									
	Chemical nitrogen materials		Natural organic materials		Phosphate materials		Potash materials		Secondary- and trace-nutrient materials	
	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent
New England	590	6.0	40	0.2	-1,841	-6.8	327	18.0	45	40.5
Middle Atlantic	25,749	27.8	374	1.0	-3,343	-4.3	4,007	29.7	1,607	27.3
South Atlantic	106,379	12.4	-3,257	-8.9	5,753	6.3	4,277	4.4	-20,683	-14.6
East North Central	199,049	26.1	418	1.0	21,750	3.7	53,839	23.8	5,431	153.2
West North Central	281,153	25.0	-2,000	-14.5	51,448	8.9	27,137	43.1	2,918	187.4
East South Central	31,708	5.0	994	32.8	-13,488	-7.3	-6,793	-11.0	1,851	46.9
West South Central	147,819	21.2	2,698	63.4	19,009	5.4	5,467	13.8	-1,692	-27.0
Mountain	20,317	6.5	-7,567	-19.7	-413	-0.2	1,158	37.5	2,591	6.8
Pacific	142,790	14.1	24,862	7.5	6,663	2.1	2,298	10.4	156,203	14.1
Alaska, Hawaii, and Puerto Rico	1/-17,160	-18.6	26	--	692	4.8	-3,901	-42.6	534	30.8
United States	938,394	16.8	16,588	3.1	86,230	3.5	87,816	16.3	148,805	11.4

1/ Quantity of urea reported in Hawaii for year ended June 30, 1962 was probably higher than actually consumed.

Table 10. - Selected N-P grades consumed, by State and region, year ended June 30, 1963

State and region	Grade 1/						
	11-48	13-39	16-20	16-48	18-46	21-53	27-14
	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Maine	0	0	0	0	0	10	0
New Hampshire	0	0	0	0	0	1	0
Vermont	0	0	0	0	0	0	0
Massachusetts	29	0	0	4	17	4	0
Rhode Island	0	0	0	0	0	1	0
Connecticut	0	0	0	0	0	42	0
New England	29	0	0	4	17	58	0
New York	98	0	0	32	240	0	0
New Jersey	0	0	0	11	12	11	0
Pennsylvania	606	22	0	84	219	383	200
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Maryland	176	0	0	88	215	16	0
West Virginia	10	0	0	0	0	93	0
Middle Atlantic	890	22	0	215	686	503	200
Virginia	3	0	0	14	12	414	267
North Carolina	0	0	0	0	13	186	0
South Carolina	0	0	0	0	0	152	0
Georgia	30	0	0	225	35	325	72
Florida	0	0	0	0	22	780	39
South Atlantic	33	0	0	239	82	1,857	378
Ohio	3,226	17	0	1,727	9,673	295	0
Indiana	9,358	0	20	2,873	13,674	1,059	32
Illinois	4,829	30	52	3,550	24,334	2,795	177
Michigan	1,646	0	15	533	3,674	738	56
Wisconsin	548	0	0	110	2,252	144	0
East North Central	19,607	47	87	8,793	53,607	5,031	265
Minnesota	11,095	757	6,208	8,734	17,894	45	3,162
Iowa	2,635	1,090	8,003	13,713	36,544	408	4,566
Missouri	541	193	709	1,332	6,559	10	162
North Dakota	43,512	483	16,496	8,743	4,618	211	2,553
South Dakota	2,261	184	6,803	1,780	2,665	249	4,755
Nebraska	3,323	549	12,211	22,368	10,852	512	977
Kansas	476	2,287	53,079	67,204	19,367	1,092	1,687
West North Central	63,843	5,543	103,509	123,874	98,499	2,527	17,862
Kentucky	51	0	21	182	1,265	712	2,038
Tennessee	154	23	23	31	241	1,727	2,873
Alabama	0	0	27	43	1	333	0
Mississippi	34	0	28	0	0	232	0
East South Central	239	23	99	256	1,507	3,004	4,911
Arkansas	3	228	2,265	35	1,150	431	0
Louisiana	34	12	3,005	0	318	0	206
Oklahoma	515	7,879	24,990	22,712	6,619	0	10
Texas	9,226	8,772	163,265	7,607	8,628	1,524	0
West South Central	9,778	16,891	193,525	30,354	16,715	1,955	216
Montana	4,258	203	9,294	3,811	4	654	1,219
Idaho	2,452	0	14,202	2,937	0	28	1,607
Wyoming	29	0	984	1,749	56	1,685	142
Colorado	684	290	2,318	10,152	2,905	4,593	575
New Mexico	536	571	3,921	1,294	1,234	1,589	0
Arizona	7,663	563	21,501	4,118	0	2,240	1,102
Utah	266	0	2,233	55	0	79	600
Nevada	104	36	1,480	5	0	118	155
Mountain	15,992	1,663	55,933	24,121	4,199	10,986	5,400
Washington	4,355	585	18,510	6,951	0	144	10,691
Oregon	3,973	3,824	28,745	1,909	0	273	392
California	25,844	1,104	84,712	5,040	0	3,153	953
Pacific	34,172	5,513	131,967	13,900	0	3,570	12,036
48 States and D. C.	144,583	29,702	485,120	201,756	175,312	29,491	41,268
Alaska	561	0	0	0	0	0	0
Hawaii	2,143	0	161	0	781	151	0
Puerto Rico	0	160	1	0	2	101	0
United States	147,287	29,862	485,282	201,756	176,095	29,743	41,268

1/ In other tables, all quantities of grades 11-48, 13-39, 16-20, 21-53, and 27-14 are included in materials, whereas 16-48 and 18-46 are included in mixtures.

Table 11. - Primary nutrients contained in mixtures and the total in mixtures and direct-application materials consumed, by State and region, year ended June 30, 1963

State and region	Mixtures					Mixtures and Materials				
	N	P_2O_5		K_2O	Total N, available P_2O_5, and K_2O	N	P_2O_5		K_2O	Total N, available P_2O_5, and K_2O
		Available	Total				Available[1]	Total[2]		
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Maine	13,699	18,819	19,949	19,644	52,162	14,903	19,401	20,559	19,954	54,258
New Hampshire	1,278	1,982	2,016	2,088	5,348	1,527	2,338	2,378	2,185	6,050
Vermont	2,955	6,117	6,285	7,018	16,090	3,434	8,750	8,979	7,184	19,368
Massachusetts	6,512	7,118	7,509	6,841	20,471	7,951	8,042	8,512	7,158	23,151
Rhode Island	1,339	1,838	1,890	1,777	4,954	1,455	1,960	2,015	1,804	5,219
Connecticut	5,575	6,246	6,478	6,287	18,108	6,646	7,713	8,007	6,734	21,093
New England	31,358	42,120	44,127	43,655	117,133	35,916	48,204	50,450	45,019	129,139
New York	40,534	68,982	70,046	60,477	169,993	52,760	74,101	75,472	62,199	189,060
New Jersey	15,231	22,769	23,429	23,002	61,002	19,159	23,907	24,651	23,996	67,062
Pennsylvania	38,534	73,693	76,361	71,409	183,636	51,862	82,463	85,835	75,532	209,857
Delaware	6,436	10,979	11,379	12,614	30,029	8,534	11,135	11,583	13,111	32,780
Dist. of Columbia	319	358	390	237	914	377	404	439	257	1,038
Maryland	20,086	35,706	36,760	37,864	93,656	31,314	36,849	38,046	38,833	106,996
West Virginia	2,911	7,763	8,328	7,394	18,068	3,686	10,191	10,940	7,705	21,582
Middle Atlantic	124,051	220,250	226,693	212,997	557,298	167,692	239,050	246,966	221,633	628,375
Virginia	29,925	72,439	77,467	80,801	183,165	47,700	78,931	84,612	86,657	213,288
North Carolina	65,151	130,639	140,832	150,927	346,717	133,487	134,713	145,214	160,074	428,274
South Carolina	29,651	66,031	71,452	76,507	172,189	70,858	68,506	74,080	82,074	221,438
Georgia	57,860	122,889	130,979	154,902	335,651	164,802	124,302	132,463	157,248	446,352
Florida	85,876	87,869	103,760	133,011	306,756	122,363	92,396	112,190	146,344	361,103
South Atlantic	268,463	479,867	524,490	596,148	1,344,478	539,210	498,848	548,559	632,397	1,670,455
Ohio	71,842	165,874	170,895	132,782	370,498	122,212	176,055	183,122	146,744	445,011
Indiana	70,040	178,650	182,988	169,450	418,140	197,803	190,887	198,428	218,146	606,836
Illinois	62,540	158,944	164,066	107,309	328,793	259,977	217,012	340,341	180,449	657,438
Michigan	48,395	111,776	113,314	101,317	261,488	82,590	115,691	117,725	109,899	308,180
Wisconsin	21,078	66,750	68,490	80,636	168,464	35,207	70,596	72,997	104,281	210,084
East North Central	273,895	681,994	699,753	591,494	1,547,383	697,789	770,241	912,613	759,519	2,227,549
Minnesota	34,483	103,406	105,545	68,339	206,228	85,552	124,183	127,070	83,079	292,814
Iowa	51,559	129,935	132,610	70,777	252,271	229,696	169,921	174,312	94,893	494,510
Missouri	62,136	90,027	93,944	82,458	234,621	163,402	102,008	163,712	95,392	360,802
North Dakota	9,786	17,779	18,273	1,905	29,470	22,459	56,176	57,341	1,982	80,617
South Dakota	5,289	6,604	6,795	320	12,213	18,140	14,140	14,568	705	32,985
Nebraska	16,304	32,810	33,664	3,318	52,432	208,200	52,967	54,671	4,937	266,104
Kansas	31,894	64,314	65,727	9,086	105,294	155,197	88,216	90,738	9,906	253,319
West North Central	211,451	444,875	456,558	236,203	892,529	882,646	607,611	682,412	290,894	1,781,151
Kentucky	32,242	71,387	75,101	69,651	173,280	61,654	82,880	88,539	81,055	225,589
Tennessee	32,035	63,331	66,938	67,435	162,801	81,130	69,919	73,825	74,829	225,878
Alabama	35,733	100,133	105,917	98,271	234,137	98,307	106,120	112,686	101,828	306,255
Mississippi	26,391	43,168	45,817	41,933	111,492	124,646	53,957	57,502	50,319	228,922
East South Central	126,401	278,019	293,773	277,290	681,710	365,737	312,876	332,552	308,031	986,644
Arkansas	16,023	37,418	38,921	36,268	89,709	78,153	44,662	46,529	54,468	177,283
Louisiana	16,044	28,439	29,860	25,585	70,068	74,280	31,475	33,728	27,870	133,625
Oklahoma	17,948	39,639	40,820	12,718	70,305	61,076	55,830	58,288	13,535	130,441
Texas	52,793	91,867	94,760	39,004	183,664	327,636	162,954	172,199	43,970	534,560
West South Central	102,808	197,363	204,361	113,575	413,746	541,145	294,921	310,744	139,843	975,909
Montana	2,309	3,385	3,449	216	5,910	9,171	19,858	20,446	303	29,332
Idaho	5,015	7,326	7,464	296	12,637	39,529	24,053	24,408	789	64,371
Wyoming	669	1,244	1,291	12	1,925	5,586	4,728	4,835	87	10,401
Colorado	5,538	11,163	11,496	1,332	18,033	29,458	24,664	25,736	2,620	56,742
New Mexico	1,875	2,465	2,530	254	4,594	15,115	10,515	10,885	511	26,141
Arizona	5,606	8,901	9,157	1,126	15,633	61,420	23,895	24,300	1,633	86,948
Utah	1,352	1,271	1,356	270	2,893	9,753	4,562	4,723	336	14,651
Nevada	211	196	208	63	470	1,747	1,108	1,131	65	2,920
Mountain	22,575	35,951	36,951	3,569	62,095	171,779	113,383	116,464	6,344	291,506
Washington	8,383	14,636	15,058	4,633	27,652	99,530	29,389	30,051	9,490	138,409
Oregon	5,365	8,837	9,072	4,916	19,118	53,963	21,446	22,181	7,064	82,473
California	49,936	43,970	45,706	19,103	113,009	314,105	107,846	111,765	35,443	457,394
Pacific	63,684	67,443	69,836	28,652	159,779	467,598	158,681	163,997	51,997	678,276
48 States and D. C.	1,224,686	2,447,882	2,556,542	2,103,583	5,776,151	3,869,512	3,043,815	3,364,757	2,455,677	9,369,004
Alaska	298	704	724	434	1,436	1,356	994	1,017	470	2,820
Hawaii	11,039	7,725	7,913	17,913	36,677	22,617	10,292	12,439	19,960	52,869
Puerto Rico	27,618	17,288	18,152	26,504	71,410	35,604	17,772	18,643	27,355	80,731
United States: 1962-63	1,263,641	2,473,599	2,583,331	2,148,434	5,885,674	3,929,089	3,072,873	3,396,856	2,503,462	9,505,424
1961-62	1,147,266	2,219,444	2,326,248	1,973,149	5,339,859	3,369,980	2,807,039	3,108,995	2,270,537	8,447,556
1960-61	1,071,224	2,069,425	2,176,530	1,883,111	5,023,760	3,030,788	2,645,085	2,999,993	2,168,533	7,844,406

1/ Includes available P_2O_5 from colloidal phosphate (2 percent by weight) and from phosphate rock (3 percent by weight). 2/ Includes total P_2O_5 from colloidal phosphate (22 percent by weight) and from phosphate rock (32 percent by weight).

Table 12. - Change in consumption of primary nutrients supplied in mixtures and in direct-application materials, by State and region, year ended June 30, 1963, compared with preceding year

State and region	Increase or decrease (-)									
	Mixtures					Materials				
	N	P_2O_5		K_2O	Total N, avail. P_2O_5 and K_2O	N	P_2O_5		K_2O	Total N, avail. P_2O_5 and K_2O
		Available	Total				Available	Total		
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Maine	-262	-938	-968	-901	-2,101	219	-84	-73	236	371
New Hampshire	174	166	168	98	438	-120	-46	-49	19	-147
Vermont	403	-120	-124	-40	243	63	-199	-227	14	-122
Massachusetts	652	718	746	777	2,147	249	-7	14	18	260
Rhode Island	217	456	420	319	992	-38	1	1	0	-37
Connecticut	861	593	592	406	1,860	-89	-3	-18	-115	-207
New England	2,045	875	834	659	3,579	284	-338	-352	172	118
New York	3,192	4,146	2,821	2,805	10,143	3,033	-672	-651	-148	2,213
New Jersey	969	346	366	66	1,381	14	-119	-116	-21	-126
Pennsylvania	2,048	1,049	1,005	5,152	8,249	3,488	399	332	1,395	5,282
Delaware	1,125	1,582	1,631	1,845	4,552	578	-45	-114	45	578
Dist. of Columbia	61	80	87	63	204	6	-5	-8	-6	-5
Maryland	2,797	2,716	2,726	2,725	8,238	4,598	242	-50	231	5,071
West Virginia	-32	162	155	337	467	91	194	232	142	427
Middle Atlantic	10,160	10,081	8,791	12,993	33,234	11,808	-6	-375	1,638	13,440
Virginia	1,089	272	451	2,286	3,647	3,248	1,110	1,098	1,362	5,720
North Carolina	3,392	5,341	5,756	7,026	15,759	9,039	377	405	195	9,611
South Carolina	2,469	4,073	4,320	5,726	12,268	4,840	-165	-203	-929	3,746
Georgia	3,487	2,483	2,563	7,063	13,033	16,402	-483	-484	-295	15,624
Florida	-5,535	225	-623	-6,396	-11,706	4,490	-87	1,356	3,892	8,295
South Atlantic	4,902	12,394	12,467	15,705	33,001	38,019	752	2,172	4,225	42,996
Ohio	10,098	22,325	22,826	16,980	49,403	7,314	1,020	917	4,425	12,759
Indiana	10,466	31,003	31,579	30,002	71,471	12,207	-1,755	-3,073	5,495	15,947
Illinois	4,046	14,980	15,256	5,051	24,077	80,117	4,197	8,573	16,806	101,120
Michigan	6,964	15,133	15,309	18,759	40,856	4,491	-534	93	1,803	5,760
Wisconsin	1,849	4,781	4,862	4,009	10,639	1,512	-524	-311	3,808	4,796
East North Central	33,423	88,222	89,832	74,801	196,446	105,641	2,404	6,199	32,337	140,382
Minnesota	4,242	10,399	10,546	5,080	19,721	14,970	-1,344	-1,368	3,288	16,914
Iowa	8,692	25,319	25,705	11,341	45,352	56,638	6,632	6,637	10,855	74,125
Missouri	9,567	15,793	16,366	18,404	43,764	27,652	-142	13,791	1,656	29,166
North Dakota	710	2,380	2,422	450	3,540	-2,172	-2,242	-2,330	-7	-4,421
South Dakota	1,519	1,044	1,088	114	2,677	1,924	627	627	178	2,729
Nebraska	5,268	11,043	11,289	1,044	17,355	22,000	-2,673	-2,505	513	19,840
Kansas	11,273	17,087	17,444	1,241	29,601	20,428	45	51	-58	20,415
West North Central	41,271	83,065	84,860	37,674	162,010	141,440	903	14,903	16,425	158,768
Kentucky	1,989	3,796	3,945	4,262	10,047	2,738	-125	-918	125	2,738
Tennessee	900	3,638	3,735	5,739	10,277	8,387	-57	-448	3	8,333
Alabama	-3,172	4,243	4,401	4,034	5,105	6,154	87	461	-684	5,557
Mississippi	2,994	5,587	5,775	6,937	15,518	1,595	-1,253	-1,262	-75	267
East South Central	2,711	17,264	17,856	20,972	40,947	18,874	-1,348	-2,167	-631	16,895
Arkansas	536	3,601	3,672	2,359	6,496	4,208	669	619	85	4,962
Louisiana	1,479	1,963	2,060	2,546	5,988	6,525	-48	95	-49	6,428
Oklahoma	4,197	10,370	10,602	2,985	17,552	10,811	-1,948	-2,087	154	9,017
Texas	9,765	14,899	15,269	5,536	30,200	61,231	6,968	7,467	3,453	71,652
West South Central	15,977	30,833	31,603	13,426	60,236	82,775	5,641	6,094	3,643	92,059
Montana	1,237	2,084	2,129	143	3,464	533	3,368	3,525	79	3,980
Idaho	-213	433	422	14	234	3,164	145	-5	19	3,328
Wyoming	456	868	901	-7	1,317	1,531	208	199	55	1,794
Colorado	1,615	3,424	3,690	262	5,301	-3,625	-1,426	-921	273	-4,778
New Mexico	-192	453	415	-35	226	644	-1,396	-1,368	-26	-778
Arizona	936	1,988	2,025	107	3,031	2,761	1,938	1,922	11	4,710
Utah	-154	-261	-263	14	-401	2,452	-2,854	-2,927	30	-372
Nevada	14	8	9	8	30	14	192	176	-1	205
Mountain	3,699	8,997	9,328	506	13,202	7,474	175	601	440	8,089
Washington	-1,013	-318	-412	-3,804	-5,135	16,210	384	358	39	16,633
Oregon	-148	-390	-407	250	-288	6,670	1,667	1,625	-41	8,296
California	4,056	42	-43	1,991	6,089	19,889	1,705	1,416	1,840	23,434
Pacific	2,895	-666	-862	-1,563	666	42,769	3,756	3,399	1,838	48,363
48 States & D. C.	117,083	251,065	254,709	175,173	543,321	449,084	11,939	30,474	60,087	521,110
Alaska	103	188	198	69	360	228	21	24	9	258
Hawaii	-1,979	-411	-339	-1,900	-4,290	1/-5,687	172	748	-2,812	-8,327
Puerto Rico	1,168	3,313	2,515	1,943	6,424	-891	-453	-468	356	-988
United States	116,375	254,155	257,083	175,285	545,815	442,734	11,679	30,778	57,640	512,053

1/ Quantity of urea reported for year ended June 30, 1962, was probably higher than actually consumed.

Table 13. - Nitrogen content of kinds of fertilizer consumed, by State and region, year ended June 30, 1963

State and region	Mixtures	Ammonia		Ammonium nitrate	Ammonium nitrate-Limestone	Ammonium sulfate	Natural organics	Nitrogen solutions	Phosphate materials	Sodium nitrate	Urea	Other nitrogen materials	Total
		Anhydrous	Aqua										
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Maine	13,699	0	0	583	0	9	70	237	4	26	228	47	14,903
New Hampshire	1,278	0	0	107	0	1	35	42	2	7	39	16	1,527
Vermont	2,955	0	0	224	0	(1/)	3	53	1	1	191	6	3,434
Massachusetts	6,512	0	0	320	0	57	428	124	16	75	378	41	7,951
Rhode Island	1,339	0	0	20	0	0	55	0	4	4	12	21	1,455
Connecticut	5,575	0	0	127	0	15	428	163	17	42	204	75	6,646
New England	31,358	0	0	1,381	0	82	1,019	619	44	155	1,052	206	35,916
New York	40,534	957	0	4,523	97	150	598	1,809	29	435	2,939	689	52,760
New Jersey	15,231	238	0	1,159	60	384	332	611	29	244	576	295	19,159
Pennsylvania	38,534	1,667	0	2,991	24	1,494	481	2,920	226	180	3,060	285	51,862
Delaware	6,436	31	0	262	10	(1/)	19	1,292	1	11	282	190	8,534
District of Columbia	319	0	0	7	0	(1/)	35	0	1	2	12	1	377
Maryland	20,086	3,434	7	1,455	85	16	82	4,620	32	436	840	221	31,314
West Virginia	2,911	0	0	311	7	73	13	45	22	207	90	7	3,686
Middle Atlantic	124,051	6,327	7	10,708	283	2,117	1,560	11,297	340	1,515	7,799	1,688	167,692
Virginia	29,925	108	0	2,059	2,839	151	64	9,956	166	1,616	571	245	47,700
North Carolina	65,151	5,149	0	5,927	15,572	62	204	30,144	42	9,544	883	809	133,487
South Carolina	29,651	1,679	0	5,122	11,664	65	103	13,436	36	8,692	252	158	70,858
Georgia	57,860	16,323	5	33,108	6,395	610	115	41,365	95	7,947	115	864	164,802
Florida	85,876	4,028	0	10,183	1,886	1,207	1,175	9,057	181	2,994	1,543	4,233	122,363
South Atlantic	268,463	27,287	5	56,399	38,356	2,095	1,661	103,958	520	30,793	3,364	6,309	539,210
Ohio	71,842	9,275	373	6,042	24	4,508	333	17,745	441	110	11,298	221	122,212
Indiana	70,040	46,591	5,951	13,241	1	2,418	80	46,407	1,290	28	11,711	45	197,803
Illinois	62,540	116,146	4,539	32,565	13	13,610	490	25,937	1,200	5	2,776	156	259,977
Michigan	48,395	11,687	4	5,862	3	531	528	8,580	373	206	6,196	225	82,590
Wisconsin	21,078	3,115	67	3,212	0	282	282	6,042	95	0	975	59	35,207
East North Central	273,895	186,814	10,934	60,922	41	21,349	1,713	104,711	3,399	349	32,956	706	697,789
Minnesota	34,483	16,256	1,914	6,602	0	172	165	22,240	3,201	0	486	33	85,552
Iowa	51,559	80,190	12,279	25,598	0	313	86	54,514	3,049	0	2,039	69	229,696
Missouri	62,136	46,662	80	33,122	0	60	174	16,518	252	61	4,294	43	163,402
North Dakota	9,786	1,808	0	1,740	0	191	7	635	8,263	0	22	7	22,459
South Dakota	5,289	1,198	579	7,079	0	122	18	569	2,685	0	534	67	18,140
Nebraska	16,304	123,739	4,475	25,478	0	510	34	32,683	2,784	0	1,910	283	208,200
Kansas	31,894	25,953	20	42,309	2	136	51	35,418	9,482	12	9,742	178	155,197
West North Central	211,451	295,806	19,347	141,928	2	1,504	535	162,577	29,716	73	19,027	680	882,646
Kentucky	32,242	7,316	0	16,162	199	164	62	3,232	710	488	720	359	61,654
Tennessee	32,035	18,032	0	19,635	67	19	75	4,188	1,166	4,418	1,234	261	81,130
Alabama	35,733	8,317	0	28,188	5,649	1,315	59	9,584	76	8,229	915	242	98,307
Mississippi	26,391	38,533	118	39,874	1,255	308	9	7,279	57	8,139	2,048	635	124,646
East South Central	126,401	72,198	118	103,859	7,170	1,806	205	24,283	2,009	21,274	4,917	1,497	365,737
Arkansas	16,023	19,404	126	17,925	21	367	3	6,485	482	3,861	12,799	657	78,153
Louisiana	16,044	26,241	1,204	16,146	2	2,716	21	3,602	545	3,048	4,588	123	74,280
Oklahoma	17,948	8,804	0	11,421	0	409	69	8,574	5,023	48	8,772	8	61,076
Texas	52,793	175,410	5,320	20,101	0	17,373	207	11,418	28,268	286	15,479	981	327,636
West South Central	102,808	229,859	6,650	65,593	23	20,865	300	30,079	34,318	7,243	41,638	1,769	541,145
Montana	2,309	1,398	234	2,420	0	123	3	20	2,486	0	171	7	9,171
Idaho	5,015	8,833	2,355	9,226	0	5,985	94	2,465	3,012	0	2,437	107	39,529
Wyoming	669	1,629	20	1,908	0	183	4	298	556	0	315	4	5,586
Colorado	5,538	6,315	60	11,327	0	1,272	518	773	1,598	0	1,644	413	29,458
New Mexico	1,875	6,859	52	811	0	889	19	1,352	1,102	0	2,150	6	15,115
Arizona	5,606	24,595	2,856	2,239	71	3,857	49	4,569	5,207	19	10,613	1,739	61,420
Utah	1,352	4,180	31	2,025	0	931	32	19	595	0	585	3	9,753
Nevada	211	785	18	83	0	189	19	0	326	0	90	26	1,747
Mountain	22,575	54,594	5,626	30,039	71	13,429	738	9,496	14,882	19	18,005	2,305	171,779
Washington	8,383	36,888	14,830	9,322	12	6,753	232	10,486	6,509	12	5,778	325	99,530
Oregon	5,365	4,893	6,876	5,333	0	14,488	62	2,133	5,699	0	8,842	272	53,963
California	49,936	92,096	45,992	12,918	0	57,362	8,686	11,720	17,777	58	13,983	3,577	314,105
Pacific	63,684	133,877	67,698	27,573	12	78,603	8,980	24,339	29,985	70	28,603	4,174	467,598
Alaska	298	0	0	970	0	1	0	0	63	0	24	0	1,356
Hawaii	11,039	0	4,549	6	0	2,119	1	33	300	8	4,538	24	22,617
Puerto Rico	27,618	0	1,514	0	0	3,151	0	0	42	1	3,275	3	35,604
United States:													
1962-63	1,263,641	1,006,762	116,448	499,378	45,958	147,121	16,712	471,392	2/115,618	61,500	165,198	3/19,361	3,929,089
1961-62	1,147,266	767,425	99,783	468,523	47,855	116,687	16,521	371,379	113,642	65,780	132,804	22,315	3,369,980
1960-61	1,071,224	666,234	86,489	446,585	49,945	115,715	16,722	292,566	101,906	65,737	92,448	25,217	3,030,788

1/ Less than 0.5 ton. 2/ Includes 203 tons as bone meal. 3/ Includes 5,562 tons as calcium cyanamide, 6,089 tons as calcium nitrate, and 3,122 tons as potassium materials.

Table 14. - Available P_2O_5 content of kinds of fertilizer consumed, by State and region, year ended June 30, 1963

State and region	Mixtures	Ammoniated phosphates					Natural organics	Phosphoric acid	Phosphate rock	Superphosphate		Other phosphate materials	Total
		11-48-0	13-39-0	16-20-0	21-53-0	27-14-0				Grades 22% and under	Grades over 22%		
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Maine	18,819	0	0	0	5	0	60	0	2	480	10	25	19,401
New Hampshire	1,982	0	0	0	1	0	25	0	2	310	0	18	2,338
Vermont	6,117	0	0	0	0	0	1	0	1	2,622	1	8	8,750
Massachusetts	7,118	14	0	0	2	0	313	0	5	432	25	133	8,042
Rhode Island	1,838	0	0	0	1	0	42	0	(1/)	34	0	45	1,960
Connecticut	6,246	0	0	0	22	0	199	0	1	756	127	362	7,713
New England	42,120	14	0	0	31	0	640	0	11	4,634	163	591	48,204
New York	68,982	47	0	0	0	0	281	0	14	4,351	228	198	74,101
New Jersey	22,769	0	0	0	6	0	173	0	6	563	154	236	23,907
Pennsylvania	73,693	291	9	0	207	28	361	0	48	4,786	1,394	1,646	82,463
Delaware	10,979	0	0	0	0	0	13	0	4	72	55	12	11,135
District of Columbia	358	0	0	0	0	0	29	0	(1/)	10	0	7	404
Maryland	35,706	84	0	0	9	0	51	0	10	428	57	504	36,849
West Virginia	7,763	5	0	0	50	0	11	0	8	1,544	404	406	10,191
Middle Atlantic	220,250	427	9	0	272	28	919	0	90	11,754	2,292	3,009	239,050
Virginia	72,439	1	0	0	222	38	18	0	53	3,219	365	2,576	78,931
North Carolina	130,639	0	0	0	99	0	100	0	20	2,980	103	772	134,713
South Carolina	66,031	0	0	0	81	0	17	0	8	1,928	40	401	68,506
Georgia	122,889	15	0	0	177	10	74	0	3	902	30	202	124,302
Florida	87,869	0	0	0	417	6	736	0	386	1,566	288	1,128	92,396
South Atlantic	479,867	16	0	0	996	54	945	0	470	10,595	826	5,079	498,848
Ohio	165,874	1,526	7	0	159	0	253	40	180	3,827	4,017	172	176,055
Indiana	178,650	4,533	0	4	571	4	78	0	308	820	5,874	45	190,887
Illinois	158,944	2,368	12	10	1,481	25	585	25	12,160	3,808	37,399	195	217,012
Michigan	111,776	797	0	3	398	8	542	0	42	1,020	916	189	115,691
Wisconsin	66,750	272	0	0	78	0	296	0	57	337	1,420	1,386	70,596
East North Central	681,994	9,496	19	17	2,687	37	1,754	65	12,747	9,812	49,626	1,987	770,241
Minnesota	103,406	5,282	302	1,274	24	492	143	0	26	820	12,257	157	124,183
Iowa	129,935	1,282	428	1,613	220	667	55	369	133	5,940	28,637	642	169,921
Missouri	90,027	257	75	144	5	27	116	0	5,964	203	5,065	125	102,008
North Dakota	17,779	21,321	195	3,458	114	422	4	0	2	0	12,820	61	56,176
South Dakota	6,604	1,108	74	1,426	134	786	13	0	3	53	3,928	11	14,140
Nebraska	32,810	1,503	219	2,533	281	139	27	539	38	1,369	12,622	887	52,967
Kansas	64,314	227	911	10,897	594	262	34	0	27	143	10,805	2	88,216
West North Central	444,875	30,980	2,204	21,345	1,372	2,795	392	908	6,193	8,528	86,134	1,885	607,611
Kentucky	71,387	25	0	4	377	301	18	0	174	4,178	2,411	4,005	82,880
Tennessee	63,331	74	9	5	917	424	38	0	14	2,285	1,963	859	69,919
Alabama	100,133	0	0	5	176	0	30	0	66	4,286	262	1,162	106,120
Mississippi	43,168	16	0	6	124	0	7	0	50	6,864	853	2,869	53,957
East South Central	278,019	115	9	20	1,594	725	93	0	304	17,613	5,489	8,895	312,876
Arkansas	37,418	1	89	470	228	0	2	0	15	852	5,477	110	44,662
Louisiana	28,439	16	5	625	0	29	14	0	75	1,315	824	133	31,475
Oklahoma	39,639	250	3,103	5,210	0	1	54	32	98	2,474	4,970	1	55,830
Texas	91,867	4,464	3,463	34,041	819	0	120	3,335	512	7,238	17,028	67	162,954
West South Central	197,363	4,731	6,660	40,346	1,047	30	190	3,367	698	11,879	28,299	311	294,921
Montana	3,385	2,098	80	1,951	351	188	3	2,518	10	0	9,213	61	19,858
Idaho	7,326	1,183	0	2,899	15	244	74	3,322	0	225	8,765	0	24,053
Wyoming	1,244	14	0	208	900	21	2	69	3	0	2,223	44	4,728
Colorado	11,163	341	116	479	2,452	88	409	816	56	21	8,723	0	24,664
New Mexico	2,465	257	229	803	842	0	16	78	8	1,284	4,373	160	10,515
Arizona	8,901	3,807	229	4,453	1,230	176	47	3,144	1	671	1,236	0	23,895
Utah	1,271	113	0	462	42	98	29	52	0	406	2,069	20	4,562
Nevada	196	50	14	306	62	23	20	0	0	6	401	30	1,108
Mountain	35,951	7,863	668	11,561	5,894	838	600	9,999	78	2,613	37,003	315	113,383
Washington	14,636	2,164	236	3,828	81	1,668	146	1,129	5	1,019	4,356	121	29,389
Oregon	8,837	1,959	1,507	5,818	149	54	44	0	1	2,242	792	43	21,446
California	43,970	12,338	420	16,942	1,679	138	5,643	5,204	5	16,937	4,246	324	107,846
Pacific	67,443	16,461	2,163	26,588	1,909	1,860	5,833	6,333	11	20,198	9,394	488	158,681
Alaska	704	279	0	0	0	0	0	0	0	0	10	1	994
Hawaii	7,725	1,065	0	33	82	0	1	1	199	460	726	0	10,292
Puerto Rico	17,288	0	63	(1/)	54	0	0	0	0	140	227	0	17,772
United States:													
1962-63	2,473,599	71,447	11,795	99,910	15,938	6,367	11,367	20,673	2/ 20,801	98,226	220,189	3/ 22,561	3,072,873
1961-62	2,219,444	67,010	15,609	95,360	21,117	5,672	11,497	14,797	18,695	97,052	216,808	23,978	2,807,039
1960-61	2,069,425	64,679	19,238	82,185	17,919	4,377	11,369	18,007	24,071	99,931	203,325	30,559	2,645,085

1/ Less than 0.5 ton. 2/ Includes 277 tons as colloidal phosphate. 3/ Includes 4,966 tons as calcium metaphosphate, 5,460 tons as basic slag, 2,317 tons as bone meal, and 7 tons as potassium products.

Table 15. - K_2O content of kinds of fertilizer consumed, by State and region, year ended June 30, 1963

State and region	Mixtures	Lime-Potash	Manure salts	Natural organics	Potassium chloride	Potassium-magnesium sulfate	Potassium nitrate	Potassium-sodium nitrate	Potassium sulfate	Other potassium materials	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Maine	19,644	0	0	53	96	5	0	6	150	0	19,954
New Hampshire	2,088	0	0	12	84	0	0	(1/)	1	0	2,185
Vermont	7,018	0	0	3	160	2	0	0	1	0	7,184
Massachusetts	6,841	0	0	95	150	4	0	16	52	0	7,158
Rhode Island	1,777	0	0	24	3	0	0	0	0	0	1,804
Connecticut	6,287	0	0	113	121	3	64	0	45	101	6,734
New England	43,655	0	0	300	614	14	64	22	249	101	45,019
New York	60,477	0	0	104	678	103	7	195	635	0	62,199
New Jersey	23,002	0	0	116	830	25	0	6	17	0	23,996
Pennsylvania	71,409	0	0	191	3,750	51	0	0	129	2	75,532
Delaware	12,614	0	0	4	485	0	0	0	8	0	13,111
District of Columbia	237	0	0	17	2	0	0	0	1	0	257
Maryland	37,864	123	0	45	728	11	0	1	61	0	38,833
West Virginia	7,394	0	0	8	283	19	0	0	1	0	7,705
Middle Atlantic	212,997	123	0	485	6,756	209	7	202	852	2	221,633
Virginia	80,801	827	0	9	4,635	31	0	7	347	0	86,657
North Carolina	150,927	604	63	46	6,078	574	0	297	1,086	399	160,074
South Carolina	76,507	0	5	15	5,021	168	0	0	358	0	82,074
Georgia	154,902	0	2	65	1,715	61	152	228	121	2	157,248
Florida	133,011	68	1,394	592	5,606	861	44	1,822	2,625	321	146,344
South Atlantic	596,148	1,499	1,464	727	23,055	1,695	196	2,354	4,537	722	632,397
Ohio	132,782	0	0	109	13,070	283	0	4	496	0	146,744
Indiana	169,450	0	0	30	48,393	53	(1/)	(1/)	218	2	218,146
Illinois	107,309	0	0	174	72,819	65	0	0	80	2	180,449
Michigan	101,317	0	0	111	8,045	215	0	77	131	3	109,899
Wisconsin	80,636	0	0	113	23,380	75	0	0	77	0	104,281
East North Central	591,494	0	0	537	165,707	691	(1/)	81	1,002	7	759,519
Minnesota	68,339	0	0	68	14,618	26	0	0	28	0	83,079
Iowa	70,777	0	0	12	24,098	0	0	0	5	1	94,893
Missouri	82,458	0	1	23	12,790	16	0	0	104	0	95,392
North Dakota	1,905	0	0	0	77	0	0	0	0	0	1,982
South Dakota	320	0	0	1	349	0	0	0	0	35	705
Nebraska	3,318	0	3	9	1,438	110	0	0	59	0	4,937
Kansas	9,086	0	0	7	799	3	11	0	0	0	9,906
West North Central	236,203	0	4	120	54,169	155	11	0	196	36	290,894
Kentucky	69,651	0	0	11	7,728	367	36	54	3,208	(1/)	81,055
Tennessee	67,435	6	0	7	6,492	4	70	3	812	0	74,829
Alabama	98,271	0	0	10	3,426	16	28	66	11	0	101,828
Mississippi	41,933	0	0	2	8,223	56	9	28	68	0	50,319
East South Central	277,290	6	0	30	25,869	443	143	151	4,099	(1/)	308,031
Arkansas	36,268	0	0	1	18,157	19	12	0	11	0	54,468
Louisiana	25,585	0	0	10	2,052	0	11	48	1	163	27,870
Oklahoma	12,718	0	1	28	775	(1/)	0	0	13	0	13,535
Texas	39,004	0	0	19	4,777	143	0	0	15	12	43,970
West South Central	113,575	0	1	58	25,761	162	23	48	40	175	139,843
Montana	216	0	0	0	87	0	0	0	0	0	303
Idaho	296	0	0	96	390	0	0	0	7	0	789
Wyoming	12	0	0	1	71	3	0	0	0	0	87
Colorado	1,332	0	0	494	724	65	0	0	5	0	2,620
New Mexico	254	0	0	4	157	90	0	0	6	0	511
Arizona	1,126	4	0	16	71	29	0	0	387	0	1,633
Utah	270	0	0	13	53	0	0	0	0	0	336
Nevada	63	0	0	2	0	0	0	0	0	0	65
Mountain	3,569	4	0	626	1,553	187	0	0	405	0	6,344
Washington	4,633	0	0	75	3,794	248	0	0	740	0	9,490
Oregon	4,916	0	0	35	1,738	114	0	0	136	125	7,064
California	19,103	0	0	10,019	1,390	0	1	0	4,920	10	35,443
Pacific	28,652	0	0	10,129	6,922	362	1	0	5,796	135	51,997
Alaska	434	0	0	0	20	0	0	0	16	0	470
Hawaii	17,913	0	0	(1/)	1,591	96	4	0	356	0	19,960
Puerto Rico	26,504	0	0	0	795	7	9	0	40	0	27,355
United States:											
1962-63	2,148,434	1,632	1,469	13,012	312,812	4,021	458	2,858	17,588	2/ 1,178	2,503,462
1961-62	1,973,149	2,063	1,799	12,303	258,607	3,669	86	2,764	15,107	990	2,270,537
1960-61	1,883,111	1,928	755	12,028	249,294	3,072	227	2,600	15,262	256	2,168,533

1/ Less than 0.5 ton. 2/ Includes 105 tons as cotton hull ash, 48 tons as potassium carbonate, and 74 tons as tobacco stems.

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